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Bareilly Division.—North-central Division of the United Provinces, lying below the Himālayas between 27° 35′ and 29° 58′ N. and 78° and 80° 27′ E. It is bounded on the north by the sub-Himālayan tract of the Kumaun Division and by Nepāl; on the west and south by the Ganges, which divides it from the Meerut and Agra Divisions; and on the east by the Lucknow Division of Oudh. The RĀMPUR STATE forms a wedge of territory between the Districts of Morādābād and *Bareilly*, and political control is exercised by the Commissioner of this Division, whose head-quarters are at Bareilly city. Population decreased between 1872 and 1881, but has increased considerably since. The numbers at the last four enumerations were as follows: (1872) 5,252,325, (1881) 5,122,557, (1891) 5,344,054, and (1901) 5,479,688. The total area is 10,720 square miles, and the density of population 511 persons per square mile, compared with 445 for the Provinces as a whole. The Division is the sixth largest in area and the sixth in population in the United Provinces. In 1901 Hindus formed nearly 75 per cent. of the total, and Musalmāns 24 per cent., while the other religions most largely represented were Christians (24,459, of whom 21,421 were natives), Aryas (14,993), Sikhs (3,334), and Jains (2,016). The Division includes six Districts, as shown below:—

District.	Area in square miles.	Population, 1901.	Land revenue and cesses, 1903-4, in thousands of rupees.
Bareilly	1,580	1,090,117	17,47
Bijnor	1,791	779,951	16,63
Budaun	1,987	1,025,753	14,98
Morādābād	2,285	1,191,993	17,38
Shāhjahānpur	1,727	921,535	13,40
Pīlībhīt	1,350	470,339	8,39
Total	10,720	5,479,688	88,25

The northern portions of each of these Districts, except Budaun, re[illegible] the damp submontane area called the *tarai*, and the Division

generally is a fertile tract, especially noted for the production of sugar-cane. There are 65 towns and 11,403 villages. The largest towns are BAREILLY (131,208, with cantonments), SHĀHJAHĀNPUR (76,458, with cantonments), MORĀDĀBĀD (75,128), AMROHA (40,077), SAMBHAL (39,715), BUDAUN (39,031), PĪLĪBHĪT (33,490), CHANDAUSĪ (25,711), and NAGĪNA (21,412). The chief places of commercial importance are Bareilly, Shāhjahānpur, Morādābād, Pīlībhīt, Chandausī, and TILHAR. Sugar and grain are dealt with also in many smaller places. Although ancient sites occur in many parts of the Division, RĀMNAGAR is the only one which has been even partially explored. BUDAUN and SAMBHAL were early seats of Muhammadan governors; and BAREILLY, PĪLĪBHĪT, RĀMPUR, and AONLA were important centres during the Rohilla rule in the eighteenth century. *See* ROHILKHAND.

Bareilly District (*Barelī*).—District in the Bareilly or Rohilkhand Division, United Provinces, lying between 28° 1′ and 28° 54′ N. and 78° 58′ and 79° 47′ E., with an area of 1,580 square miles. It is bounded on the north by Nainī Tāl; on the east by Pīlībhīt and Shāhjahānpur; on the south by Shāhjahānpur and Budaun; and on the west by Budaun and the State of Rāmpur. The District of Bareilly, though lying not far from the outer ranges of the Himālayas, is a gently sloping plain, with no greater variety of surface than is caused by the shifting channels of its numerous streams. Water lies almost everywhere near the surface, giving it a verdure that recalls the rice-fields of Bengal. The most prominent physical feature is the RĀMGANGĀ River, which traverses the south-western portion. Its channel has a well-defined bank at first on the south, and later on the north; but except where the stream is thus confined, the *khādar* or lowland merges imperceptibly into the upland, and the river varies its course capriciously through a valley 4 or 5 miles wide, occasionally wandering to a still greater distance. North of the Rāmgangā are numerous streams running south to meet that river. The chief of these (from west to east) are the Dojorā, which receives the Kichhā or West Bahgul, the Deoraniān, the Nakatiā, and the East Bahgul, which receives the Pangailī. The Deohā forms the eastern boundary for some distance. The gentle slope of the country makes it possible to use these rivers for irrigation in the upper part of their courses. Lower down, and more especially in the east of the District, they flow below the general level and are divided by elevated watersheds of sandy plains.

Physical aspects.

The District exposes nothing but alluvium, in which even *kankar*, or calcareous limestone, is scarce.

The flora resembles that of the Gangetic plain generally. In the north a few forest trees are found, the *semal* or cotton-tree (*Bombax malabaricum*) towering above all others. The rest of the District is

dotted with fine groves of mangoes, while the *jāmun* (*Eugenia Jambolana*), *shīsham* (*Dalbergia Sissoo*), tamarind, and various figs (*Ficus glomerata, religiosa, infectoria*, and *indica*) are also common. Groves and villages are often surrounded by bamboos, which flourish luxuriantly. The area under trees, which is increasing, amounts to about 32 square miles.

Leopards are frequently found in the north of the District, and wolves are common in the east. Antelope are seen in some localities, and *pārha* or hog deer haunt the beds of rivers. The ordinary game-birds are found abundantly, and fish are plentiful. Snakes are also very numerous.

The climate of the District is largely influenced by its proximity to the hills, Bareilly city and all the northern *parganas* lying within the limits of the heavier storms. The rainy season begins earlier and continues later than in the south, and the cold season lasts longer. The north of the District is unhealthy, on account of excessive moisture and bad drinking-water. The mean temperature varies from 54° to 60° in January, and from 85° to 93° in May, the hottest month.

The annual rainfall in the whole District averages nearly 44 inches; but while the south-west receives only 39, the fall amounts to nearly 47 inches in the north and exceeds 48 in the north-east. Fluctuations from year to year are considerable; in 1883 less than 19 inches was received, and in 1894 nearly 65 inches.

History.

Before the Christian era the District was included in the kingdom of Northern PANCHĀLA; and the names are known, from coins found at RĀMNAGAR, of a number of kings who probably reigned in the second century B.C. These kings were connected by marriage with a dynasty ruling in the south of Allahābād, and it has been suggested they were the Sunga kings of the Purānas[1]. A kingdom called Ahīchhattra, in or near this District, was visited by Hiuen Tsiang in the seventh century A.D., and is described as flanked by mountain crags. It produced wheat and contained many woods and fountains, and the climate was soft and agreeable.

In the early Muhammadan period the tract now known as Rohilkhand was called Katehr, and the Rājputs who inhabited it gave continual trouble. Shahāb-ud-dīn, or his general Kutb-ud-dīn, captured Bangarh in Budaun District about the year 1194; but nothing more is heard of the Muhammadans in this neighbourhood till Mahmūd II made his way along the foot of the hills to the Rāmgangā in 1252. Fourteen years later, Balban, who succeeded him, marched to Kampil, put all the Hindus to the sword, and utterly crushed the Katehriyās, who had hitherto lived by violence and plunder. In 1290 Sultān Fīroz invaded

[1] *Journal, Asiatic Society of Bengal*, 1897, p. 303; A. Cunningham, *Coins of Ancient India*.

Katehr again, and brought the country into final subjection to Musalmān rule, which was not afterwards disputed except by the usual local revolts. Under the various dynasties which preceded the Mughal empire, the history of Katehr consists of the common events which make up the annals of that period: constant attempts at independence on the part of the district governors, followed by barbarous suppression on the part of the central authority. The city of Bareilly itself was founded in 1527 by Bās Deo and Barel Deo, from the latter of whom it takes its name. It was, however, of small importance till the reign of Shāh Jahān, when it took the place of Budaun. In 1628 Alī Kulī Khān was governor of Bareilly, which had grown into a considerable place. In 1657 Rājā Makrand Rai founded the new city of Bareilly, cut down the forest to the west of the old town, and expelled all the Katehriyās from the neighbourhood. A succession of regular governors followed during the palmy days of the great Mughal emperors; but after the death of Aurangzeb, in 1707, when the unwieldy organization began to break asunder, the Hindus of Bareilly threw off the imperial yoke, refused their tribute, and commenced a series of anarchic quarrels among themselves for supremacy.

Their dissensions only afforded an opportunity for the rise of a new Muhammadan power. Alī Muhammad Khān, a leader of Rohilla Pathāns, defeated the governors of Bareilly and Morādābād, and made himself supreme throughout the whole Katehr region. In 1744 the Rohilla chieftain conquered Kumaun right up to Almorā; but two years later the emperor Muhammad Shāh marched against him, and Alī Muhammad was taken a prisoner to Delhi. However, the empire was too much in need of vigorous generals to make his captivity a long one, and in 1748 he was restored to his old post in Katehr. Next year he died, and a mausoleum at Aonla, in this District, still marks his burial-place. Hāfiz Rahmat Khān, guardian to his sons, succeeded to the governorship of Rohilkhand, in spite of the crafty designs of Safdar Jang of Oudh, who dispatched the Nawāb of Farrukhābād against him without effect. Hāfiz Rahmat Khān defeated and slew the Nawāb, after which he marched northward and conquered Pīlībhīt and the *tarai*. The Oudh Wazīr, Safdar Jang, plundered the property of the Farrukhābād Nawāb after his death, and this led to a union of the Rohilla Afghāns with those of Farrukhābād. Ahmad Khān of Farrukhābād defeated Nawal Rai, the deputy of Safdar Jang, besieged Allahābād, and took part of Oudh; but the Wazīr called in the aid of the Marāthās, and with them defeated Ahmad Khān and the Rohillas at Fatehgarh and at Bisaulī, near Aonla. He then besieged them for four months at the foot of the hills; but owing to the invasion of Ahmad Shāh Durrāni terms were arranged, and Rahmat Khān became the *de facto* ruler of Rohilkhand.

After the accession of Shujā-ud-daula as Nawāb of Oudh, Rahmat Khān joined the imperial troops in their attack upon that prince, but the Nawāb bought them off with a subsidy of 5 lakhs. Rahmat Khān took advantage of the victory at Pānīpat in 1761 to make himself master of Etāwah, and during the eventful years in which Shujā-ud-daula was engaged in his struggle with the British power, he continually strengthened himself by fortifying his towns and founding new strongholds. In 1770 Najīb-ud-daula advanced with the Marāthā army under Sindhia and Holkar, defeated Rahmat Khān, and forced the Rohillas to ask the aid of the Wazīr. Shujā-ud-daula became surety for a bond of 40 lakhs, by which the Marāthās were induced to evacuate Rohilkhand. This bond the Rohillas were unable to meet, whereupon Shujā-ud-daula, after getting rid of the Marāthās, attacked Rohilkhand with the help of a British force lent by Warren Hastings, and subjugated it by a desolating war. Rahmat Khān was slain, but Faiz-ullah, the son of Alī Muhammad, escaped to the north-west and became the leader of the Rohillas. After many negotiations he effected a treaty with Shujā-ud-daula in 1774, by which he accepted nine *parganas* worth 15 lakhs a year, giving up all the remainder of Rohilkhand to the Wazīr (*see* RĀMPUR STATE). Saādat Alī was appointed governor of Bareilly under the Oudh government. In 1794 a revolution in Rāmpur State led to the dispatch of British troops, who fought the insurgents at Bhitaura or Fatehganj (West), where an obelisk still commemorates the slain. The District remained in the hands of the Wazīr until 1801, when Rohilkhand, with Allahābād and Korā, was ceded to the British in lieu of tribute. Mr. Henry Wellesley, brother of the Governor-General, was appointed President of the Board of Commissioners sitting at Bareilly, and afterwards at Farrukhābād. In 1805 Amīr Khān, the Pindāri, made an inroad into Rohilkhand, but was driven off. Disturbances occurred in 1816, in 1837, and in 1842; but the peace of the District was not seriously endangered until the Mutiny of 1857.

In that year the troops at Bareilly rose on May 31. The European officers, except three, escaped to Nainī Tāl; and Khān Bahādur, Hāfiz Rahmat Khān's grandson, was proclaimed Nawāb Nāzim of Rohilkhand. On June 11 the mutinous soldiery went off to Delhi, and Khān Bahādur organized a government in July. Three expeditions attempted to attack Nainī Tāl, but without success. In September came news of the fall of Delhi. Walīdād Khān, the rebel leader in Bulandshahr, and the Nawāb of Fatehgarh then took refuge at Bareilly. A fourth expedition against Nainī Tāl met with no greater success than the earlier attempts. On March 25, 1858, the Nāna Sāhib arrived at Bareilly on his flight from Oudh, and remained till the end of April; but the rebellion at Bareilly had been a revival of Muhammadan rule, and when the commander-in-chief marched on Jalālābād, the Nāna Sāhib fled back again

into Oudh. On the fall of Lucknow, Fīroz Shāh retired to Bareilly, and took Morādābād on April 22, but was compelled to give it up at once. The Nawāb of Najībābād, leader of the Bijnor rebels, joined him in the city, so that the principal insurgents were congregated together in Bareilly when the English army arrived on May 5. The city was taken on May 7, and all the chiefs fled with Khān Bahādur into Oudh.

Ahīchhattra or RĀMNAGAR is the only one of many ancient mounds in the District which has been explored. It yielded numerous coins and some Buddhist sculptures. It is still a sacred place of the Jains. The period of Rohilla rule has left few buildings of importance; but some tombs and mosques are standing at AONLA and BAREILLY.

Population.

There are 12 towns and 1,924 villages. Population has risen steadily during the last thirty years. The numbers at the last four enumerations were as follows: (1872) 1,015,041, (1881) 1,030,936, (1891) 1,040,949, and (1901) 1,090,117. The District is divided into six *tahsīls*—FARĪDPUR, BAREILLY, AONLA, MĪRGANJ, BAHERĪ, and NAWĀBGANJ—the head-quarters of each being at a place of the same name. The principal towns are the municipality of BAREILLY and AONLA. The following table gives the chief statistics of area and population in 1901:—

Tahsīl.	Area in square miles	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Farīdpur	249	2	314	128,861	518	+ 7.6	2,635
Bareilly	310	1	414	325,650	1,050	+ 9.1	17,111
Aonla	306	3	320	211,836	692	+ 8.1	4,913
Mīrganj	149	1	158	103,198	640	+ 8.3	1,225
Baherī	345	2	410	193,412	561	− 6.6	2,522
Nawābganj	221	3	308	127,160	575	+ 2.2	1,404
District total	1,580	12	1,924	1,090,117	690	+ 4.7	29,810

Hindus form 75 per cent. of the total and Musalmāns 24 per cent., while Christians number 7,148 and Aryas 1,228. The density is much higher than the Provincial average, and the rate of increase between 1891 and 1901 was larger than in most parts of the United Provinces. More than 99 per cent. of the population speak Western Hindī, the ordinary dialect being Braj.

The most numerous Hindu caste is that of Chamārs (leather-workers and cultivators), 100,000. Other castes numerically strong in this District are: Kurmīs (agriculturists), 94,000; Muraos (market-gardeners), 73,000; Kisāns (cultivators), 67,000; and Kahārs (cultivators and water-carriers), 56,000. Brāhmans number 48,000 and Rājputs 38,000. Ahars, who are found only in Rohilkhand, but are closely allied to the

Ahīrs of the rest of the Provinces, number 46,000. Daleras (1,724), who are nominally basket-makers but in reality thieves, are not found outside this District. Among Muhammadans, Shaikhs number 54,000; Julāhās (weavers), 41,000; and Pathāns, 41,000. The Mewātīs, who number 9,000, came from MEWĀT in the eighteenth century, owing to famine. Banjārās, who were formerly army sutlers and are still grain-carriers, have now settled down to agriculture, chiefly in the submontane Districts, and number 9,000 here. About 66 per cent. of the population are supported by agriculture, 6 per cent. by personal services, and 4 per cent. by general labour. Cotton-weaving by hand supports 3·5 per cent. Rājputs, Pathāns, Brāhmans, Kāyasths, and Baniās are the largest landholders. Kurmīs occupy nearly a quarter of the total area as cultivators, while Ahars, Kisāns, and Brāhmans each cultivate about 7 or 8 per cent.

There were 4,600 native Christians in 1901, of whom 4,488 were Methodists. The American Methodist Episcopal Mission was opened here in 1859, and has ten stations in the District, besides a theological college at Bareilly city.

Agriculture.

The north of the District contains a damp unhealthy tract, where rent rates are low and population is sparse, while cultivation depends largely on the season. The central portion is extremely fertile, consisting chiefly of loam, with a considerable proportion of clay in the Mīrganj and Nawābganj *tahsīls*. In the south, watersheds of sandy soil divide the rivers; but these sandy strips are regularly cultivated in the Bareilly and Aonla *tahsīls*, while in Farīdpur much of the light soil is very poor and liable to be thrown out of cultivation after heavy rain. The alluvial strip along the Rāmgangā is generally rich, but is occasionally ruined by a deposit of sand. Excluding garden cultivation, manure is applied only when the turn comes round for sugar-cane to be grown, at intervals of from 3 to 8 years.

The tenures are those common to the United Provinces. *Zamīndāri* or joint *zamīndāri* tenures prevail in 5,547 *mahāls*, 503 are perfect or imperfect *pattīdāri*, and 36 are *bhaiyāchārā*. The District is thus chiefly held by large proprietors. The main agricultural statistics for 1903–4 are shown in the table on the next page, in square miles.

The principal food-crops, with their areas in square miles in 1903–4, are: rice (237), wheat (368), gram (201), *bājra* (166), and maize (115). Sugar-cane covers 71 square miles, and is one of the most important products; while poppy (23), oilseeds (27), cotton (13), and *san*-hemp (10) are also valuable crops.

The total cultivated area has not varied much during the last thirty years; but there has been a permanent increase to the west of Aonla and north of Farīdpur *tahsīls*, which is counterbalanced by a temporary

decrease in the north of the District owing to vicissitudes of the seasons. The principal changes in cultivation have been directed towards the substitution of more valuable crops for inferior staples. The area under *bājra* has decreased, while sugar-cane, rice, and maize are more largely grown. Poppy has been reintroduced recently, and the area sown with it is increasing. A rise in the area producing barley and gram points to an increase in the area double cropped. Very few loans are taken under the Land Improvement Loans Act; between 1890 and 1903 the total amounted to Rs. 41,000, of which Rs. 38,000 was advanced in the famine year, 1896–7. Nearly 1½ lakhs was lent under the Agriculturists' Loans Act, of which Rs. 63,000 was advanced in 1896–7. In good seasons the advances are small.

Tahsīl.	Total.	Cultivated.	Irrigated.	Cultivable waste.
Farīdpur	249	196	34	19
Bareilly	310	240	50	20
Aonla	306	240	56	27
Mīrganj	149	111	17	14
Baherī	315	258	44	31
Nawābganj	221	178	55	12
Total	1,580	1,223	256	123

The cattle used for agricultural purposes are chiefly bred in the District or imported from the neighbouring submontane tracts, those bred in Pīlībhīt being called *panwār*. These varieties are small but active, and suffice for the shallow ploughing in vogue. Stronger animals, used in the well-runs in the south-west of the District, are imported from west of the Jumna. Horse-breeding is confined to the Rāmgangā and Aril basins, where wide stretches of grass and in some places a species of *Oxalis* resembling clover are found. Four pony and two donkey stallions are maintained by Government and by the District board, and two donkey stallions are kept on estates under the Court of Wards to encourage mule-breeding. There has, however, been little progress in either horse or mule-breeding. Sheep are not kept to any great extent.

The soil of the District is generally moist, and in ordinary seasons there is very little demand for irrigation of the spring crops. In the north, where a regular supply of water is valued for rice and sugar-cane, the Rohilkhand canals are the main source. Elsewhere, wells, rivers, and *jhīls* are used. In 1903–4 canals and wells supplied 76 and 75 square miles respectively, tanks or *jhīls* 58, and other sources (chiefly rivers) 47. The canals are all small works and may be divided into two classes. Those drawn from the Bahgul, Kailās, Kichhā, and Paha have permanent masonry head-works, with channels dug to definite sections, and are provided with subsidiary masonry works, regulators,

&c., like the regular canals of the Doāb. The others are small channels, into which water is turned from the rivers by earthen dams, renewed annually. Masonry wells are not constructed for irrigation, except by the Court of Wards. In most parts of the District the wells are temporary excavations worked by pulley, or by a lever, as the spring-level is high; but in some tracts to the south water is raised in a leathern bucket by a rope pulled by bullocks or by men.

Kankar or nodular limestone is scarce and of poor quality. A little lime is made by burning the ooze formed of lacustrine shells.

Trade and communications.

The most important industry of the District is sugar-refining. This is carried on after native methods, which are now being examined by the Agricultural department in the hope of eliminating waste. Coarse cotton cloth and cotton carpets or *darīs* are woven largely, and Bareilly city is noted for the production of furniture. A little country glass is also manufactured. The Rohilkhand and Kumaun Railway workshops employed 81 hands in 1903, and a brewery in connexion with that at Nainī Tāl is under construction. The indigo industry is declining.

Grain and pulse, sugar, hides, hemp, and oilseeds are the chief exports, while salt, piece-goods, metals, and stone and lime are imported. The grain is exported to Calcutta, and sugar is sent to the Punjab, Rājputāna, and Central India. Bareilly city and Aonla are the chief centres of trade.

The main line of the Oudh and Rohilkhand Railway passes through the south of the District, with a branch from Bareilly city through Aonla to Alīgarh. The north is served by the Rohilkhand and Kumaun Railway, which is the only route to the hill-station of Nainī Tāl, and by a line through Pīlībhīt and Sītāpur to Lucknow, which leaves the Rohilkhand and Kumaun Railway at Bhojupura, a few miles north of Bareilly city. Another metre-gauge line, recently opened, leads from Bareilly south-west through Budaun to Soron in Etah District.

The total length of metalled roads is 139 miles and of unmetalled roads 186 miles. Of the former, 125 miles are in charge of the Public Works department, but the cost of all but 88 miles is met by Local funds. There are avenues of trees along 254 miles. The District is not well supplied with roads. Those which are metalled follow roughly the alignment of the railways, and there are no others, except the road from Aonla to Budaun. In the north communication is almost impossible during the rains; but the streams can easily be forded in the hot and cold seasons.

Famine.

Bareilly is not liable to severe famine, owing to the natural moisture of the soil and the rarity of so complete failure of the rains as occurs elsewhere. It is also well served by railways, and a considerable portion can be irrigated. Ample grazing-

grounds for cattle are within easy reach. In 1803-4 distress was felt, and the spring crops were grazed by the cattle as no grain had formed. In 1819 and 1825-6 there was scarcity. The famine of 1837-8 followed a succession of bad years, and its effects were felt, but not so severely as in the Doāb. While famine raged elsewhere in 1860-1, Bareilly suffered only from slight scarcity, owing to the failure of the autumn harvest; and relief works, which were opened for the first time, alleviated distress. Relief works were also necessary in 1868-9, 1877-8, and 1896-7, but the numbers attracted to them never rose very high.

Administration.

The Collector is usually assisted by a member of the Indian Civil Service, and by four Deputy-Collectors recruited in India. There is a *tahsīldār* at the head-quarters of each *tahsīl*. The Executive Engineer of the Rohilkhand division (Roads and Buildings) and the Executive Engineer of the Rohilkhand Canals are stationed at Bareilly city.

There are three regular District Munsifs and a Subordinate Judge, and the appointment of Village Munsifs commenced recently. The District and Sessions Judge of Bareilly has civil and criminal jurisdiction in both Bareilly and Pīlībhīt Districts. Crime is very heavy, especially offences affecting life and grievous hurt. Religious feeling runs high, and quarrels between Hindus and Muhammadans, accompanied by serious rioting, are not infrequent. The thieving caste of Daleras has already been mentioned. Female infanticide is now very rarely suspected, and in 1904 only 130 names remained on the registers of proclaimed families.

Under the Rohillas proprietary rights did not exist, and villages were farmed to the highest bidder. After annexation in 1801 Rohilkhand was divided into two Districts, Morādābād and Bareilly. Shāhjahānpur District was formed in 1813-4; Budaun was carved out of both the original Districts in 1824; the south of Nainī Tāl District was taken away in 1858, and sixty-four villages were given, as a reward for loyalty, to the Nawāb of Rāmpur. Pīlībhīt was made a separate District in 1879. In the early short-term settlements the Rohilla system of farming was maintained till 1812, when proprietary rights were conferred on persons who seemed best entitled to them. The demand then fixed was so high that heavy balances were frequent, and many estates were abandoned. A more enlightened method of settlement based on a survey was commenced under Regulation VII of 1822, and the first regular settlement followed under Regulation IX of 1833. Different methods were adopted by the officers who carried this out. Some divided each village into circles according to soil and situation, while others classified villages according to their general condition as a whole. Rent rates were sometimes assumed for the various soils, while in other cases general revenue rates were deduced from the collections

in previous years. The revenue fixed amounted to 11 lakhs on the present area. Another settlement was made in 1867–70. The rental 'assets' were calculated from rent rates selected after careful inquiry. A large area was grain-rented; and the rent rates for this tract were selected after an examination of the reputed average share of the landlord, and after experiments in the out-turn of various crops, the average prices for twenty years being applied to ascertain the cash value. The result was an assessment of 13·5 lakhs; but this was reduced by about Rs. 4,000 in 1874–6, owing to the assessment of too large an area in the north of the District, where cultivation fluctuates. The latest revision was carried out in 1898–1902. Cash rents were then found to be paid on about two-thirds of the total cultivated area, and the actual rent roll formed the basis of assessment. Rents of occupancy tenants had remained for the most part unaltered since the previous settlement, and enhancements were given where these were inadequate. Grain rents, chiefly found in the north of the District, were largely commuted to cash rates. The demand fixed amounts to 15 lakhs, representing 45 per cent. of the net 'assets,' and the incidence falls at Rs. 1·7 per acre, varying from Rs. 1·3 to Rs. 2 in different parts.

Collections on account of land revenue and total revenue have been, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue .	13,14	12,93	15,44	14,94
Total revenue .	16,67	20,45	25,13	26,01

There is one municipality, BAREILLY CITY, and ten towns are administered under Act XX of 1856. Outside of these, local affairs are managed by the District board, which has an income of 1·7 lakhs, chiefly from rates. In 1903–4 the expenditure on roads and buildings amounted to Rs. 63,000.

There are 22 police stations and 19 outposts, all but one of the latter being in Bareilly city. The District Superintendent of police has under him an assistant and 4 inspectors, besides a force of 112 subordinate officers and 587 men of the regular police, 374 municipal and town police, and 1,989 village and road *chaukīdārs*. The Central jail, which has accommodation for more than 3,000 prisoners, contained a daily average of nearly 1,800 in 1903, while the District jail contained 715. The latter was formerly used for convicts from Nainī Tāl and from Pīlībhīt, and is a Central jail for female prisoners.

The District takes a medium place as regards the literacy of its inhabitants, of whom 2·7 per cent. (4·7 males and 0·6 females) can read and write. The number of public institutions increased from 143 in 1880–1 to 154 in 1900–1, and the number of pupils from 5,033 to

6,675. In 1903-4 there were 196 such institutions, with 9,636 pupils, of whom 996 were girls, besides 163 private schools with 2,479 pupils. Of the total, 3 were managed by Government, and 136 by the District and municipal boards, while 55 were aided. There is an Arts college at Bareilly city. In 1903-4 the expenditure on education was a lakh, of which Rs. 53,000 was derived from Local and municipal funds, Rs. 23,000 from fees, and Rs. 12,000 from Provincial revenues.

There are 13 hospitals and dispensaries, with accommodation for 287 in-patients. In 1903 the number of cases treated was 114,000, of whom 3,068 were in-patients, and 2,815 operations were performed. The expenditure was Rs. 30,000, most of which was met from Local and municipal funds. There is a lunatic asylum at Bareilly city with about 400 inmates.

In 1903-4 the number of persons successfully vaccinated was 36,000, representing a proportion of 33 per 1,000 of the population. Vaccination is compulsory only in Bareilly city.

[*District Gazetteer* (1879, under revision); S. H. Fremantle, *Settlement Report* (1903).]

Bareilly Tahsīl.—Central *tahsīl* of Bareilly District, United Provinces, conterminous with the *pargana* of Karor or Bareilly, lying between 28° 13′ and 28° 37′ N. and 79° 14′ and 79° 38′ E., with an area of 310 square miles. Population increased from 298,482 in 1891 to 325,650 in 1901. There are 414 villages and one town, BAREILLY (population, 131,208), the District and *tahsīl* head-quarters. The demand for land revenue in 1903-4 was Rs. 2,71,000, and for cesses Rs. 48,000. The high density of population, 1,050 persons per square mile, is due to the inclusion of a large city. There is some poor soil, but the tract across which the Rāmgangā flows in a constantly varying channel is generally fertile. Five smaller streams flow from north to south and are used for irrigation. Sugar-cane is the most valuable crop, and is largely grown, while sugar is refined at many places, especially in Bareilly city. In 1903-4 the area under cultivation was 240 square miles, of which 50 were irrigated. Small canals drawn from the East Bahgul river irrigate 6 or 7 square miles, and wells 15 or 20. Tanks or *jhīls* and rivers supply the remainder.

Bareilly City (*Barelī*).—Administrative head-quarters of the Bareilly Division and District, United Provinces, with a cantonment, situated in 28° 22′ N. and 79° 24′ E., 812 miles by rail from Calcutta and 1,031 from Bombay. It lies at the junction of a branch of the Oudh and Rohilkhand Railway from Alīgarh with the main line; and these are met by the narrow-gauge railways from Lucknow through Sītāpur, from Kāthgodām at the foot of the hills, and from Soron through Budaun. Population has increased steadily. The numbers at the last four enumerations were as follows: (1872) 102,982, (1881) 113,417, (1891)

121,039, and (1901) 131,208. These figures include the inhabitants of the cantonment, who numbered 13,828 in 1901. There are 67,000 Hindus, 59,000 Musalmāns, and 3,000 Christians.

Tradition relates that the old city was founded in 1537, and derived its name of Bāns Barelī from Bās, a Barhelā by caste, or from Bās and Barel, Katehriyā Rājputs. The prefix is now usually interpreted as being the word *bāns* or 'bamboo,' and is still used by the inhabitants. About 1573 a subordinate post was established here, to check the turbulent Katehriyās of Rohilkhand, and a small town gradually grew up round the fort. By the close of Akbar's reign, in 1596, Bareilly had become the head-quarters of a *mahāl* or *pargana*. In 1657 it was made the capital of Katehr (see ROHILKHAND), and a new city was founded by Makrand Rai, who was appointed governor. As the Mughal empire decayed in the eighteenth century, the Rohilla power was consolidated by Alī Muhammad, who established his capital at Aonla, and Bareilly was for a time of small importance. Hāfiz Rahmat Khān, who virtually succeeded Alī Muhammad, though nominally guardian to his sons, lived alternately at Pīlībhīt and at Bareilly, which again rose into prominence. The place fell, with the surrounding country, into the possession of the Nawāb of Oudh after the defeat of the Rohillas by the combined British and Oudh forces in 1774, and passed to the British by cession in 1801, when it became the head-quarters of a District and of a provincial court. In 1816 an insurrection took place in consequence of the imposition of a house tax, and in 1837 and 1842 serious religious disturbances occurred between Hindus and Musalmāns.

During the Mutiny of 1857 Bareilly was an important centre of disaffection. The sepoys rebelled on May 31, and Khān Bahādur Khān, grandson of Hāfiz Rahmat Khān, was proclaimed governor. Most of the Europeans escaped to Nainī Tāl. The rebel ruler found government no easy task, and the annals of his brief term relate many dissensions and difficulties. As British troops recovered ground to the south and west, the Nawāb of Farrukhābād, the Nāna Sāhib from Cawnpore, Fīroz Shāh from Lucknow, and other leading rebels took refuge here. On May 5, 1858, a British army arrived before the city, and two days later the rebels fled into Oudh, and the British occupied Bareilly. In 1871 the peace of the city was again disturbed by serious religious riots, and since then religious differences have occasionally threatened to develop into actual fighting.

Bareilly stands on a plateau slightly elevated above the basin of the Rāmgangā, a branch of which now runs under the city. The native quarter is traversed by a long, well-kept street, widening at intervals into markets. The houses are usually of brick coated with white plaster, which is sometimes adorned with tracery, but few have any pretensions

to architectural beauty. The oldest building of any importance is the tomb of Hāfiz Rahmat Khān, close to the city on the Aonla road, which is an elegant building of plastered brick with gilded finials. It was built by his son in 1775 and repaired by his daughter in 1839, and was again repaired in 1891–2 at the cost of Government. The finest public buildings are the dispensary and Dufferin Hospitals, the *tahsīlī* and chief police station, and a triangular building containing the municipal hall, a literary institute, and the honorary magistrates' courthouse. The Central jail is situated north of the city on the Nainī Tāl road. South of the city lies the civil station, which contains the high school, the American Methodist Orphanage and Theological Seminary, the District offices and District jail, and several churches. The cantonment lies south of the civil station, and contains a small fort built after the disturbance of 1816. The usual garrison consists of British artillery, British and Native infantry, and Native cavalry. Bareilly is the head-quarters of the Commissioner of the Division, and of the Executive Engineers of the Rohilkhand Canals and Rohilkhand division (Roads and Buildings).

A municipality was constituted in 1858, which in 1901 had a population of 117,380. During the ten years ending 1901 the income and expenditure averaged 1·2 lakhs. In 1903–4 the income was 2·1 lakhs, chiefly from octroi (1·5 lakhs). The expenditure of 2·2 lakhs included public works (Rs. 42,000), conservancy (Rs. 33,000), public safety (Rs. 31,000), and administration and collection (Rs. 19,000). An excellent water-supply is drawn from wells. In 1903–4 the income of the cantonment fund was Rs. 48,000, and the expenditure Rs. 49,000.

The chief industry of the city is sugar-refining, and about 20,000 tons of raw sugar are imported annually, while 10,000 tons of sugar are exported by rail alone. Bareilly is also noted for its furniture, made both of bamboo and of the ordinary timbers in use for this purpose. Cloth is woven and brass vessels are made; but these industries are not very important. The Rohilkhand and Kumaun Railway workshops employ about 80 hands, and there is a dairy farm in connexion with the lunatic asylum. The principal educational institution is the college, which contains 104 students. A new building for this institution will be erected shortly on a site in the civil station presented by the Nawāb of Rāmpur. The District school has about 450 pupils and the *tahsīlī* school 370. The municipality maintains 21 schools and aids 3 others, with a total attendance in 1904 of 2,321. There are also three orphanages, maintained by the Arya Samāj, the American Methodist Mission, and a Muhammadan Association.

Barel.—Hill range in Cāchār District, Eastern Bengal and Assam. *See* BARAIL.

Bārendra.—Ancient name given to the part of Eastern Bengal lying

between the Mahānandā and Karatoyā rivers, and corresponding with the old kingdom of PUNDRA, and with the western portion of the modern Rājshāhi Division. The name is said to have been conferred by king Ballāl Sen in the eleventh century; and it still survives in the BĀRIND, an elevated tract on the confines of Dinājpur, Mālda, Rājshāhi, and Bogra Districts.

Bargarh.—Western *tahsīl* of Sambalpur District, Bengal, lying between 20° 45′ and 21° 44′ N. and 82° 38′ and 83° 54′ E., with an area, in 1901, of 3,126 square miles. The population in that year was 467,076, compared with 452,022 in 1891. In 1905 the Phuljhar *zamīndāri*, with an area of 842 square miles and a population of 102,135 persons, was transferred to the Raipur District of the Central Provinces, and the adjusted figures of area and population of the *tahsīl* are 2,284 square miles and 364,941 persons. The density is 160 persons per square mile. The *tahsīl* contains 1,172 inhabited villages. Bargarh, the head-quarters, is a village of 3,609 inhabitants, 29 miles distant from Sambalpur town on the Raipur road. Excluding 206 square miles of Government forest, 69 per cent. of the available area is occupied for cultivation. The cultivated area in 1903–4 was 1,403 square miles. The demand for land revenue in the same year was Rs. 1,06,000, and for cesses Rs. 21,000. The *tahsīl* comprises an open tract along the right bank of the Mahānadī, flanked by hill and forest country to the west and north. It contains nine *zamīndāri* estates, with a total area of 1,204 square miles.

Bārh Subdivision.—North-eastern subdivision of Patna District, Bengal, lying between 25° 10′ and 25° 35′ N. and 85° 11′ and 86° 4′ E., with an area of 526 square miles. Owing to plague, its recorded population in 1901 was only 365,327, compared with 408,256 in 1891, the density being 695 persons per square mile. The subdivision consists of a long and somewhat narrow strip of country intersected by tributaries of the Ganges, and bordering that river. It contains two towns, BĀRH (population, 12,164), its head-quarters, and MOKĀMEH (13,861), an important railway junction; and 1,075 villages.

Bārh Town.—Head-quarters of the subdivision of the same name in Patna District, Bengal, situated in 25° 29′ N. and 85° 43′ E., on the Ganges. Population (1901), 12,164. Bārh is a station on the East Indian Railway, 299 miles from Calcutta, and has a considerable trade in country produce. Jessamine oil (*chameli*) of a superior quality is manufactured. Bārh was constituted a municipality in 1870. The income during the decade ending 1901–2 averaged Rs. 6,700, and the expenditure Rs. 6,500. In 1903–4 the income was Rs. 10,400, mainly from a tax on persons (or property tax); and the expenditure was Rs. 9,500. The town contains the usual subdivisional offices, a sub-jail with accommodation for 28 prisoners, and an English cemetery.

Barhaj.—Town in the Deoriā *tahsīl* of Gorakhpur District, United Provinces, situated in 26° 17′ N. and 83° 45′ E., at the terminus of a branch of the Bengal and North-Western Railway, and near the confluence of the Rāptī and Gogra. Population (1901), 10,054. The town is said to have been founded about 1770, but only rose into importance with the introduction of sugar cultivation in the neighbourhood. It is now the most important trade centre in the District, and is also remarkable for its filthiness. Grain, oilseeds, and sugar are largely exported by rail and river, and the insurance of the river traffic is part of the business of the town. Sugar is manufactured in about forty factories. The banks of the Rāptī are covered with immense piles of timber—part for re-exportation, part for boat-building, and part for fuel in the factories. The town is administered together with GAURĀ under Act XX of 1856, with an income of about Rs. 3,400. The Rājā of Majhaulī collects octroi duties and bazar dues under (United Provinces) Act III of 1901, and pays Rs. 3,500 annually to the town fund. Barhaj contains a flourishing town school with 183 pupils, a girls' school with 26, and a dispensary.

Barhalganj.—Town in the Bānsgaon *tahsīl* of Gorakhpur District, United Provinces, situated in 26° 17′ N. and 83° 30′ E., on the north bank of the Gogra, and on the road from Gorakhpur to Azamgarh. Population (1901), 5,181. It is composed of a street of masonry shops lining the sides of the road, with a fine metalled market-place. The trade consists chiefly in the export of grain, and in the distribution of imported goods, but there is also some manufacture of sugar. Barhalganj is a port of call for the river steamers. It is administered under Act XX of 1856, with an income of about Rs. 1,100. It contains a town school with 113 pupils, a girls' school with 14, and a dispensary.

Barhampur.—Subdivision and town of Murshidābād District, Bengal. *See* BERHAMPORE.

Bāri Town.—Head-quarters of the district of the same name in the State of Dholpur, Rājputāna, situated in 26° 39′ N. and 77° 37′ E., about 19 miles almost due west of Dholpur railway station and 45 miles south-west of Agra. Population (1901), 11,603. A strong masonry fort here is supposed to have been built in the fifteenth century, but the oldest building is a mosque which bears an inscription recording that it was constructed between 1346 and 1351. Three miles to the south-east are the remains of a palace, built about 1617 for prince Shāh Jahān as a shooting lodge. In the vicinity of the town are sandstone quarries, which are being connected with the railway at Dholpur by a light steam tramway. The town possesses a post office, a primary vernacular school attended by 60 boys, and a dispensary.

Bāri Doāb.—A *doab* or 'tract between two rivers' (the Beās

and Rāvi) in the Punjab, lying between 29° 22′ and 32° 30′ N. and 71° 6′ and 75° 58′ E., and comprising Amritsar District and portions of Gurdāspur, Lahore, Montgomery, and Multān. The name was formed by the Mughal emperor Akbar, by combining the first syllables of the names of the two rivers.

Bāri Doāb Canal.—A perennial irrigation canal in the Punjab, taking off from the left bank of the Rāvi, and watering the Districts of Gurdāspur, Amritsar, and Lahore in the Bāri Doāb or tract of country between the Beās and Rāvi. The present undertaking originated in a project for the improvement of an older work, the Hasli canal, constructed about the year 1633 by Alī Mardān Khān, the famous engineer of the emperor Shāh Jahān. After the occupation of Lahore in 1846, Major Napier (afterwards Lord Napier of Magdāla) turned his attention at once to this project, and set on foot the necessary surveys. The progress of the work was interrupted by the outbreak of war. After annexation the work was pressed on, because the immediate construction of the canal was regarded as almost a matter of political necessity to provide employment for the disbanded Sikh soldiers, who, having their homes in the centre of the tract, would otherwise have had little encouragement to turn to agriculture. The alignment of the Hasli canal proved on examination to be so defective that the officers in charge decided upon the adoption of an entirely independent line, parts only of the original channel being utilized as distributaries. Irrigation began in 1860–1, but the present permanent weir and other regulating head-works were not completed till after 1875. The head-works are at the village of Mādhopur in Gurdāspur District, where the river is crossed by a weir 2,700 feet long. The canal is capable of carrying 6,500 cubic feet per second: the highest average supply in the hot season is 4,850, while in the cold season it varies from 1,270 to 2,170 cubic feet per second. The main line terminates at its 31st mile, there separating into the Kasūr and main branches. The Kasūr branch 7 miles lower down gives off the Sobraon branch, and the main branch after 25 miles gives off the Lahore branch, the four branches following the crests of the ridges into which the tract is divided by its natural drainage. The total length of the main and branch canals is 369 miles, and there are 1,591 miles of distributaries, from which water is brought upon the fields by means of watercourses constructed and maintained by the cultivators. The canal is not navigable. The rainfall is heaviest in the upper part of the system, which has necessitated a special system of irrigation in Gurdāspur District and in the portion of Amritsar District north of the North-Western Railway on the Kasūr and Sobraon branches. In that tract the distributaries are closed during the cold season after a watering has been given for sowing the spring crops, the winter rains with some help from wells being

sufficient to mature those crops. The water thus set free has been utilized in extending irrigation in the driest part of Lahore District, where it borders on Montgomery—a tract for which it would otherwise have been impossible to provide a perennial supply. The gross area commanded by the canal is 2,710 square miles in Gurdāspur, Amritsar, and Lahore Districts. The lower portion of the Doāb in Montgomery and Multān is not irrigated, as there is not sufficient water available in the Rāvi during the winter. The area irrigated was 297 square miles in 1860, 677 square miles in 1880–1, 1,346 square miles in 1900–1, and 1,464 square miles in 1903–4. The total capital expenditure (exclusive of interest) up to the end of 1903–4 was 197 lakhs. The gross income for that year was about 33 lakhs, or, inclusive of the increase of land revenue due to irrigation (which is credited to the canal in the accounts), 36 lakhs. The working expenses amounted to 11 lakhs, leaving a net profit of 25 lakhs, or 12·68 per cent. on the capital outlay.

Bārind.—Elevated tract in Eastern Bengal and Assam, occupying a considerable area on the confines of the Districts of Dinājpur, Mālda, Rājshāhi, and Bogra. It derives its name from the old Hindu kingdom of BĀRENDRA. It belongs to an older alluvial formation than the surrounding country, and is composed of argillaceous beds of a rather pale reddish-brown hue, often weathering yellowish, in which *kankar* and pisolitic ferruginous concretions frequently occur. It is covered in many places with a scrub jungle, the predominant tree being the *sāl* (*Shorea robusta*). It is now being reclaimed by the Santāls, Mundās, and Oraons, large numbers of whom have immigrated into this tract, attracted by the prospect of holding their new clearances rent-free for a few years. As soon as rent is demanded, they move on, leaving the fields they have cleared to be occupied by the less hardy Hindu cultivators, who have not the energy to clear land for themselves.

Baripādā.—Capital of Mayūrbhanj, one of the Orissa Tributary States, Bengal, situated in 21° 56′ N. and 86° 44′ E., on the Burhābalang river. Population (1901), 5,613. Baripādā is connected by a light railway (2 feet 6 inch gauge) with Rupsā junction on the Bengal-Nāgpur Railway, and by metalled roads with Bahalda and Karanjiā, the headquarters of the Bāmanghāti and Pānchpīr subdivisions, and with the towns of Balasore and Midnapore; several fair-weather roads run from it to other parts of the State. It is the seat of the administration, and contains the residence of the chief, a good dispensary, and a high school, besides criminal and civil courts, and a jail.

Barī Sādri.—Principal town of an estate of the same name in the State of Udaipur, Rājputāna, situated in 24° 25′ N. and 74° 29′ E., about 50 miles east by south-east of Udaipur city. Population (1901), 4,063. On a hill to the south is a small fort, now almost in ruins. The estate, which is held by the senior noble of Mewār, who is styled Rāj,

consists of 91 villages. The income is about Rs. 48,000, and a tribute of Rs. 820 is paid to the Darbār. The chiefs of Sādri are Jhāla Rājputs. In the beginning of the sixteenth century, one Ajja came to Mewār from Halwad in Kāthiāwār, and fought in 1527 on the side of Rānā Sangrām Singh I against the emperor Bābar in the famous battle of KHĀNUA. When the Rāna was wounded and was being carried off the field, Ajja took his place on his elephant and drew on himself the brunt of the battle. He did not survive the day; but his son received the fief of Sādri, the title of Rāj, the seat of honour next to the Rānā, and the right of carrying the ensigns of Mewār and of beating his kettle-drums as far as the gate of the palace. These privileges are still enjoyed by his successors. Of the latter, one was killed at Chitor fighting against Bahādur Shāh in 1534, another at the same place fighting against Akbar in 1567, and a third at the battle of Haldighāt in 1576.

Barisāl Subdivision.—Head-quarters subdivision of Backergunge District, Eastern Bengal and Assam, situated at its north-east corner, between 22° 28′ and 23° 5′ N. and 90° 1′ and 90° 41′ E., with an area of 1,110 square miles. The population in 1901 was 945,367, compared with 879,177 in 1891. It contains three towns, BARISĀL (population, 18,978), the head-quarters, and the important marts of JHĀLAKĀTI (5,234) and NALCHITĪ (2,240); and 2,048 villages. It is the most densely populated subdivision in the District, having 852 persons to the square mile. It is a deltaic tract, intersected by numerous rivers and water-channels. The level sinks to the north-west, and parts of this portion are covered with deep morasses.

Barisāl Town.—Head-quarters of Backergunge District, Eastern Bengal and Assam, situated in 22° 42′ N. and 90° 22′ E., on the west bank of the Barisāl river. Population (1901), 18,978. In the middle of the eighteenth century Barisāl was an important salt *chaukī*, or place where salt tax was paid. The head-quarters of the District, formerly at Backergunge, were transferred here in 1801. The Barisāl river is navigable by steamers all the year round; and daily steamers ply to Khulnā and Nārāyanganj, establishing communication with Calcutta and Dacca respectively, the journey to the former occupying twenty-four hours and to the latter twelve hours. It has also steamer communication with Patuākhāli in the District and Ichākhāli and Bhawānīganj in Noākhāli. Barisāl was constituted a municipality in 1876. The income during the decade ending 1901–2 averaged Rs. 31,000, and the expenditure Rs. 29,000. In 1903–4 the income was Rs. 47,000, of which Rs. 10,000 was derived from a tax on persons (or property tax), and Rs. 12,000 from a conservancy rate; the income was also augmented by contributions of Rs. 4,000 for medical purposes and Rs. 10,000 for general purposes from Local funds and other sources. The expenditure in the same year was Rs. 35,000. The town has wide, straight, and

well-kept streets, the river-side road to Sāgardī being bordered by fine avenues; and it is intersected by numerous creeks, which are flushed twice a day at flood tide, and add much to the healthiness of the town. There are numerous tanks, of which four, unconnected with the river, are reserved for drinking purposes; a scheme to supply filtered water is under consideration.

In addition to the usual public offices and the jail, the town contains three churches belonging to the Anglican, Roman Catholic, and Baptist denominations, and a public library founded in 1855. The District jail has accommodation for 580 prisoners, who are employed on oil-pressing, brick-pounding, brick-making, carpet and mat-making, weaving, and bamboo work. A first-grade college teaches up to the B.A. standard. A District school is controlled by a joint committee of the municipality and District board, and two girls' schools are maintained respectively by the Baptist Zanāna Mission and by subscriptions; a technical school is affiliated to the District school. There are five printing presses, and three vernacular newspapers are published in the town.

Bāriya State (*Deogarh Bāriya*).—Tributary State in Rewā Kāntha, Bombay, lying between 22° 21′ and 22° 58′ N. and 73° 41′ and 74° 18′ E., with an estimated area of 813 square miles. It is bounded on the east and west by the British District of the Pānch Mahāls; on the north by the State of Sanjeli; and on the south by the State of Chota Udaipur. The extreme length, from north to south, is 39 miles. The country is hilly in the south and east, but flat in the west, and is divided into seven subdivisions—Randhīkpur, Dudhia, Umāria, Haveli, Kākadkhila, Sāgtāla, and Rājgarh. Much of it is covered with forest. The climate is damp and unhealthy, fever being the prevailing disease.

The chiefs of Bāriya are Chauhān Rājputs, who are said to have been driven south by the advance of the Musalmāns about the year 1244, and to have taken possession of the city and fort of CHĀMPĀNER. Here they ruled till defeated by Mahmūd Begara in 1484, and forced to retire to the wilder parts of their dominions. Of two branches of the family, one founded the house of Chota Udaipur and the other the house of Bāriya. The connexion of this State with the British dates from 1803, when, in consequence of the help given by the chief to the British army in their operations against Sindhia, the Government subsidized a detachment of Bāriya Bhīls at a monthly cost of Rs. 1,800. The State formed part of the Central India Agency up to 1825, when it was transferred to Bombay. The title of the chief is Mahārāwal of Deogarh Bāriya, and he is entitled to a salute of 9 guns. He holds a *sanad* authorizing adoption. Succession follows the rule of primogeniture.

The Census of 1901 showed a population of 81,579, or 100 persons per square mile, living in 483 villages. Hindus numbered 79,149, and Musalmāns 2,301. The chief castes are Bhīls, Kolīs, and Naikdas

Of the total area, only 20 per cent. is cultivated. The principal products are timber, maize, pulse, gram, and wheat. The State contains no mines and no manufactures. The chief has power to try his own subjects for capital offences.

The revenue in 1903-4 was 2 lakhs, of which Rs. 56,000 was derived from land and Rs. 18,000 from forests. The State maintains a quasi-military police force of 180 men. Of the public works constructed before 1876 under British management, the chief are the portion (21 miles in length) of the high road between Mālwā and Gujarāt lying within the limits of the State, and a branch 7 miles long connecting the village of Bāriya with the main road. Since 1892 the Anand-Godhra Railway has been extended to Ratlām, passing through Bāriya territory. The State supports a dispensary, which treated 4,331 patients in 1903-4, and 12 schools for boys, with an average attendance of 427 pupils. There is also one girls' school, with an average attendance of 48.

Bāriya Village (*Deogarh Bāriya*).—Chief town of the State of the same name in the Rewā Kāntha Agency, Bombay, situated in 22° 42′ N. and 73° 51′ E., 50 miles north-east of Baroda, about 5 miles from Limkheda on the Godhra-Ratlām branch of the Bombay, Baroda, and Central India Railway. Population (1901), 3,717. It lies almost in the centre of the State, about half a mile from the Panām river, in an angle formed by two lines of hills. The third side is enclosed by a wall built by Rājā Prithwirāj. About the end of the eighteenth century the town seems to have been of considerable importance. It was on a much-frequented route between Gujarāt and Mālwā, the tolls levied at its gates generally exceeding Rs. 20,000 a year. Partly on the Deogarh hill and partly in the plain stands the Bāriya fort, with walls about 10 feet high in the plain and 6 feet on the hill slopes. On the top of the hill a small white building contains the tutelary deity of the Bāriya house. The story is that three generations after the fall of Chāmpāner, when Dungar Singh was looking for a site for his capital, one of his Bhīls, cutting wood on a hill, struck his axe against two round stones, blood gushed out, and the axe was shivered. Hearing his story, Dungar Singh visited the spot, called it Deogarh or 'God's fort,' installed the stones as the tutelary deity of the hill, and founded his capital at its foot. The stones are still visited with great pomp by the Rājā every twelfth year.

Barkal.—Mart in the Chittagong Hill Tracts, Eastern Bengal and Assam, situated in 22° 43′ N. and 92° 25′ E., on the right bank of the Karnaphuli river. Population (1901), 2,194. It gives its name to the hills in the vicinity. The river here forms rapids, and a tramway has been constructed by which passengers and goods are transhipped.

Bārkhān.—*Tahsīl* in the south-east of Loralai District, Baluchistān, lying between 29° 37′ and 30° 21′ N. and 69° 3′ and 70° 4′ E.,

and bordering the Punjab, with an area of 1,317 square miles. The population in 1901 was 14,922, an increase of 4,276 on the rough estimate made in 1891. The head-quarters station, which bears the same name as the *tahsīl*, is about 3,650 feet above sea-level. The number of villages is 114. The land revenue in 1903-4 amounted to Rs. 47,000. The frequent existence of occupancy rights is a special feature of the tenures of the *tahsīl*. In the Leghāri-Bārkhān circle, one-third of the revenue levied is paid to the Leghāri chief as superior proprietor of the soil, and he holds a revenue-free grant up to 1907. Bārkhān rugs are well-known, but have recently deteriorated in quality.

Barkhera.—The name of four *Thakurāts* in Central India: two in the BHOPĀWAR AGENCY, distinguished as Mota and Chhota, and two in the MĀLWĀ AGENCY, known as Deo Dungrī and Panth.

Bārkūr.—Village in the Udipi *tāluk* of South Kanara District, Madras, situated in 13° 29′ N. and 74° 48′ E. The traditional capital of Tuluva, the country of Tulu-speaking people, it was long the local seat of the representatives of the Hoysala Ballālas of Dorasamudra, who were Jains by religion. The local rulers attained practical independence during the twelfth and thirteenth centuries, the most powerful of them being named Bhūtāl Pāndya (*circa* A.D. 1250), confounded by some with the Bhūtāl Pāndya to whom is ascribed the Aliya Santāna law of inheritance peculiar to the west coast, the origin of which is really much earlier. When the Vijayanagar kingdom was founded in 1336, Harihara, its first ruler, stationed a viceroy called the Rāyaru here and built a fort, remains of which are still to be seen. On the fall of Vijayanagar the Bednūr kings asserted their authority; and in the ensuing struggle the Jains were almost extirpated and Bārkūr was destroyed. Ruined tanks and Jain shrines and sculptures still abound, but its importance has vanished and not one Jain house remains.

Barliyār.—Village in the Coonoor *tāluk* of the Nīlgiri District, Madras, situated in 11° 20′ N. and 76° 50′ E., 6½ miles from Coonoor, and half-way down the *ghāt* road from Coonoor to Mettupālaiyam. Population (1901), 2,234. Mr. E. B. Thomas, a former Collector of the District, started a private garden here in 1857, which was afterwards taken over by Government. Experiments in tea cultivation and in the growth of medicinal plants, camphor, rubbers, &c., which like a warm, damp climate at a moderate elevation, have been made. The garden, which is the only one of its kind in the Presidency, is in charge of the Curator of the Government Gardens at Ootacamund.

Barmanda.—Petty State in MAHĪ KĀNTHA, Bombay.

Barmer.—Head-quarters of the Mallāni district in the State of Jodhpur, Rājputāna, situated in 25° 45′ N. and 71° 23′ E., on the Jodhpur-Bīkaner Railway. Population (1901), 6,064. The present town is said to have been founded in the thirteenth century by a

Rājā Bāhada, and to have been called after him Bāhadamer (the *meru* or 'hill-fort' of Bāhada), since contracted to Barmer. It is substantially built on the side of a rocky hill, on the summit of which are the remains of an old fort; and it possesses a post and telegraph office, a vernacular school, and a hospital. Millstones constructed here are largely exported, and fuller's earth (used as a hair-wash) is found at Kāpuri and other places in the neighbourhood. Barmer is also the name of one of the principal estates in Mallāni, consisting of sixty-six villages held by five different families, who pay between them a tribute of about Rs. 1,000 to the Darbār.

Barnadī.—A river of Assam which rises in the Himālayas and enters the valley of the Brahmaputra at 26° 13′ N. and 91° 48′ E. From this point it once formed the boundary between the Districts of Kāmrūp and Darrang, but the river has so often changed its channel that its present course is no longer recognized as the boundary. Near the hills the Barnadī flows through forest and grass jungle, but farther south villages appear on the banks. The most important places are Sonārikhāl, where two small fairs are held, and Magamuri market in the Tāmulpur *tahsīl*, which is situated about 4 miles from the Barnadī, but is a considerable centre of river-borne trade. A ferry plies throughout the year at Dumunichaki on the trunk road. The river is largely used as a trade route, and boats of 4 tons burthen can proceed as far as Sonārikhāl throughout the year, and to Malmurāgaon in the rainy season. It has a total length of about 100 miles.

Barnagar (*Nolai*).—Town in the Ujjain district of Gwalior State, Central India, situated in 23° 4′ N. and 75° 23′ E., on the west bank of the Chāmla, a tributary of the Chambal river, and on the Khandwā-Ajmer branch of the Rājputāna-Mālwā Railway. Population (1901), 10,856. The town grew rapidly between 1881 and 1891, owing to the opening of the railway, and in spite of the famine of 1899–1900 is still increasing. It belonged formerly to the Bahrām Loth family of Rājputs, who still hold a rent-free village in the neighbourhood; but in the eighteenth century it fell to Sindhia. Barnagar is managed by a municipality, constituted in 1901, which controls the lighting and sanitation, having an income of about Rs. 1,200 a year, chiefly derived from local taxes. A considerable trade in grain and opium has arisen since the opening of the railway. A State post office, a dispensary, a school, and a resthouse are situated in the town. Close to the railway station there is a British combined post and telegraph office.

Barnagār.—Ancient site in Gwalior State, Central India *See* BARO.

Barnagore.—Town in the Twenty-four Parganas District, Bengal. *See* BARANAGAR.

Barnāla (or Anāhadgarh).—Head-quarters of the Anāhadgarh

nizāmat, Patiāla State, Punjab, situated in 32° 23′ N. and 75° 37′ E., 52 miles west of Patiāla, on the Rājpura-Bhatinda branch of the North-Western Railway. Population (1901), 6,905. Rebuilt in 1722 by Ala Singh, Rājā of Patiāla, it remained the capital of the State until the foundation of the town of Patiāla in 1763, and the hearths of its founder are still revered by the people. It is built in the form of a circle, and surrounded by a wall of masonry, within which is a fort. Lying in the centre of the Jangal tract, it is a mart for the export of grain, and the State has constructed a large market to foster its development. The town contains a dispensary, an Anglo-vernacular middle school, and a police station.

Baro (or Barnagar).—Village and ancient site in the Gwalior State, Central India, lying in 23° 56′ N. and 78° 14′ E. Baro is now only a small village, with a population (1901) of 533; but the neighbourhood is covered with the remains of an ancient city of considerable size, the ruins extending to the neighbouring town of Pathāri. The principal remains consist of Hindu and Jain temples, chiefly situated close to a large tank, the waters of which are held up by a fine old stone dam. The village stands at the foot of the Gayanāth hill, a part of the arm of the Vindhyas which strikes north from Bhīlsa. The sandstone and shales of the Vindhya series are well exposed here, and the former has been employed in constructing the temples and houses of Baro. The finest building is the Gadarmal temple, on the western bank of the tank; and though the existing structure is a restoration of the original shrine, as the heterogeneous nature of its spire shows, it is still a magnificent example of mediaeval Hindu architecture. The shape of the sanctuary is interesting, being oblong instead of square, and within it is an unusually fine sculptured figure. The temple formerly stood in a spacious courtyard and was surrounded by seven smaller shrines, now mere heaps of bricks. The entrance to the courtyard lay through a lofty gate of which one richly carved pillar is still standing. The temples in this group are all Saivite, there being no Jain sculptures, as Cunningham has erroneously stated. The other large temple is called the Jain Mandir, and has evidently been restored by Jains from the remains of a Hindu building. It is entirely enclosed by a high wall, in the centre of which there is a *samādhi* or ascetic's tomb. A gallery runs round all four sides, the shrines, which number eighteen in all and are of various sizes, lying behind it. Six spires and several domes surmount the building, and have been made up of the remains of Hindu and Jain temples, carved with images peculiar to each religion. The cells, however, contain only Jain images. Tradition relates that Baro was once a large and wealthy city, but was destroyed at the end of the seventeenth century by Chhatarsāl, the chief of Pannā, who sacked the town. It is, however, impossible that a Hindu should

have injured the temples, which show evident signs of Muhammadan violence.

[A. Cunningham, *Archaeological Survey Reports*, vol. x, p. 71.]

Baroda State (or Territories of the Gaikwār).—An important Native State in direct relations with the Government of India, but geographically in intimate connexion with the Presidency of Bombay. The territories of the State are situated in Gujarāt and in Kāthiāwār, but are so interlaced with British Districts that it is impossible, without reference to a detailed map, to realize accurately their position, extent, and boundaries.

Roughly speaking, it may be said that the State lies between 20° 45′ and 24° 9′ N. and 70° 42′ and 73° 59′ E., with the exception of the Okhāmandal tract, which lies between 22° 5′ and 22° 35′ N. and 69° 5′ and 69° 20′ E.

The name by which the natives recognize the territories of Baroda and the capital town is Wadodarā, which according to tradition is a corrupt form of the Sanskrit word *vatodar* ('in the heart of the banyan-trees'). At any rate, this name well describes the capital of Baroda, inasmuch as in the vicinity of the city banyan-trees exist in great numbers. But the capital had also another name, namely, Vīrakshetra or Vīrawāti ('a land of warriors'); and this name deserves special notice, as it is mentioned (along with Wadodarā) by the Gujarāt poet Premānand, who was a native of Baroda and flourished in the seventeenth century. Moreover, it is stated that the ancient name of the city was Chandanavati, and that it was so called after Rājā Chandan of the Dor tribe of Rājputs, who wrested it from the Jains. It is now almost impossible to ascertain when the various changes in the name were made; but early English travellers and merchants mention the town as Brodera, and it is from this that the name Baroda is derived.

The Gujarāt portion of the State is divided into three great divisions or *prānts*: namely, the Kadi *prānt* to the north, the Baroda *prānt* in the centre, and the Navsāri *prānt* to the south; while the Kāthiāwār portion is usually known as the Amreli *prānt*.

A consideration of the boundaries of these four administrative divisions will make clearer the geographical position of the scattered territories of the State. The most northerly *tālukas* of the Kadi *prānt* are bounded on the north and north-west by the Pālanpur and Rādhanpur States, while the southern half is bounded on the west by Ahmadābād District, and on the south by Ahmadābād and Kaira. The eastern portion of the *prānt* has for its boundary the Mahī Kāntha States. The Baroda *prānt* has on its northern side Kaira District, which juts in between the Petlād and Sāvli *tālukas*. The western side is bounded by a portion of Kaira, by Cambay, and by Broach District. To the south it is bounded by the river Narbadā, a portion of Broach

District, and a portion of the Rewā Kāntha States, and on the east by the Pānch Mahāls District and the Rewā Kāntha States. The Navsāri *prānt* is nearly split into two by a portion of Surat District which almost crosses it from north to south. Bearing this in mind, it may be said with tolerable accuracy that this *prānt* is bounded on the north by Broach and the Rewā Kāntha States, on the west by Surat District and the sea, on the south by Surat, the State of Bānsda, and the Dāngs, and on the east by Khāndesh District. The chief portion of the scattered Amreli *prānt* is surrounded by Junāgarh and other Kāthiāwār States, while the outlying Okhāmandal subdivision adjoins the Arabian Sea and the Gulf of Cutch, and is bounded on the land side by the State of Navānagar.

The area of the State is now estimated at 8,099 square miles, made up as follows: (1) Kadi, 3,015 square miles; (2) Baroda, 1,887 square miles; (3) Navsāri, 1,952 square miles; (4) Amreli, 1,245 square miles. These figures differ from previous estimates by reason of the progress of a survey which is now almost completed.

Physical aspects.

The greater part of the State lies within the area of the coastal band of alluvium which has been formed by the encroachment on the shallow Gulf of Cambay of the detrital deposits brought down by the many rivers, large and small, which drain the province of Gujarāt, the western slopes of Mālwā, and the southern parts of Rājputāna. The upward slope of this alluvial band is very gradual, so that, as a general rule, the face of the country appears to be a dead level, and it is only when the eastern side of the alluvial flat is approached that low hills begin to make their appearance.

In the Kadi *prānt* the only eminences that diversify the general flat surface of the country are hillocks and ridges of blown sandy loam, which rise, on an average, not more than 50 or 60 feet above the general level, and only occasionally attain a height of 100 feet or a little more. In the Baroda *prānt* the number of eminences deserving the name of hills is also very small, and the only ones claiming attention are in the Sankheda *tāluka* in the east. Here is the Achali ridge, of which the highest point rises 888 feet above sea-level, and the Lachharas hill (508 feet). The Navsāri *prānt* is much more diversified than the other divisions; and here the height of the hills ranges from about 400 feet to about 2,000, with the exception of the fortified peak of Sālher, which attains a height of 5,263 feet, and is the third highest point in the northern section of the Western Ghāts. The greater part of the Amreli *prānt* is occupied by rolling plains which, as a rule, are very treeless and cheerless in their aspect, and it is only in the Dhāri *tāluka* that we meet with hills worthy the name. This *tāluka* includes a great part of the well-known Gir forest, a tract zoologically interesting as being the last refuge of the Gujarāt lion. In the Baroda section of the Gir

there are four groups of hills increasing in height from east to west: the Sarkala group, lying to the west and containing Sarkala peak (2,128 feet above sea-level); the Rajmal group, of which the highest point attains an elevation of 1,623 feet; the Nandivela group (highest point 1,741 feet); the Lapala group, with a culminating point of 1,547 feet. Across the northern ridge of this *tāluka* runs a small range of much lower hills, which near its western end is cut through by the Shatranjī river, 2½ miles north-east of Dhūri. Its highest point is Dharitor (893 feet above sea-level). The extreme northern part of the Kodinār *tāluka* is also hilly, but on a much smaller scale, while in Okhāmandal the highest elevation does not exceed 150 feet. The hills are mostly flat-topped, and form small plateaux which in most cases are more or less scarped round their summits.

The drainage of the Gujarāt portion of the State falls westwards into the Gulf of Cambay, excepting that of the most northerly *tālukas*, which are drained by the Banās and Saraswatī rivers into the Rann of Cutch. The four principal rivers falling into the Gulf are the Sābarmatī, the Mahī, the Narbadā, and the Tāpti, all passing in some parts of their courses through the Baroda State. Of much smaller size are the Dhādhar, between the Mahī and the Narbadā; the Kim, between the Narbadā and the Tāpti; and the Mindhola, the Pūrna, and the Ambikā to the south of the Tāpti. The Sābarmatī first touches Baroda territory at Virpur in the Kherālu *tāluka*, and then flows through it for about 18 miles, thereafter entering Ahmadābād District. It receives no affluent of any size in Baroda; but farther down it is joined by the Khāri, the Meshwa, and the Vātrak, which drain outlying patches of the State. The Mahī only skirts the northern extremity of the Sālvi *tāluka*, and receives the waters of the Mesri, and a little lower down the united Goma and Karād, which flow for a few miles through part of Sāvli. The central part of the Sāvli *tāluka* discharges its superfluous rain-water through the Meni, which falls into the Mahī, 8 miles west of Baroda. The Narbadā itself only skirts portions of the State; but its northern tributary, the Orsang or Or, after being joined by the Unchh and Hiran, which drain the eastern part of the Sankheda *tāluka*, brings it an important accession of water. The Tāpti flows for a distance of 43 miles through and past Baroda territory in the Songarh and Vyāra *tālukas*. Farther down it flows for 23 miles through the Kāmrej *tāluka*, and to the north of Surat skirts the outlying Baroda township of Vāriāv for 2½ miles. The only river of importance in the Amreli *prānt* is the Shatranjī, which rises in the highest part of the Gir forest and drains the central portion of the division.

The Baroda *prānt* presents a great diversity of aspect, the reason for this being that south of the city of Baroda black soil extends for a distançe of 40 miles to the Narbadā, while all the country to the north

of it is red soil. The black soil, although very fertile, is remarkable for the desert-like appearance it gives to the country where it predominates, while where the surface soil becomes red, there is a complete change. The latter is cultivated from one end to the other, there are high hedges between the fields, and the view is shut in on every side by lofty trees such as abound in the neighbourhood of the capital. It is for this reason that the country between Baroda and Ahmadābād has often been said to present the appearance of an English park. The Kadi *prānt*, consisting of an uninterrupted plain sloping gently from north-east to south-west, has a much more uniform and consequently less picturesque aspect. The western portion of the division is especially monotonous. The Navsāri *prānt* is the most variegated of the four divisions of the State, affording within a small compass the scenery of cultivated land, hills, rivers, forests, and seaboard. All the country to the north and north-east of Navsāri is thickly wooded, and these woods run for some distance down into the more level plains of Gujarāt along the Pūrna and Ambikā rivers. The most hilly portion of the country is in the Songarh *tāluka*. The inland *tālukas* to the south-east of Navsāri, and the country adjoining the Bānsda State, are more level, but not so rich or well cultivated as the coast subdivisions. Still here and there clumps of forest appear, which become larger and bolder as an approach is made to the Dāngs, where the wood is very thick. The Amreli *prānt*, being, with the exception of the Gir, devoid of hills and containing no rivers of any importance, is decidedly unpicturesque. The Okhāmandal division is, however, attractive, as it is on the sea-coast, and contains the important harbour of Dwārka.

There are no large natural lakes worthy of the name; but in the Kadi *prānt* artificial tanks of more than ordinary dimensions exist, of which the Sarmishta at Vadnagar and the tanks in Visnagar and near Pātan may be specially mentioned. The Baroda *prānt* contains several large tanks, the most extensive being that of Maval in the Sāvli *tāluka*. The most important is, however, the great reservoir, almost deserving the name of lake, which has been constructed at Ajwa during the rule of the present Gaikwār, for the purpose of supplying the inhabitants of Baroda city with potable water.

Our knowledge of the geology of the State is mainly due to Mr. R. Bruce Foote of the Geological Survey of India, who, in the years 1892–4, visited and carefully examined all the regions containing important minerals. The results arrived at by him were published in a memoir, entitled *The Geology of Baroda State*.

In the Gujarāt portion, recent subaerial formations, consisting mainly of the great loess or blown-loam deposit, cover by far the greater part of the country. They are underlaid by the old alluvium of the great rivers, which is nearly coextensive with them in the same area,

but is, as a rule, exposed only in the deep-cut river valleys. To the south of Baroda city the loess itself is largely obscured by extensive sheets of black soil. The Deccan trap rocks stand second in respect of the area they occupy, and are followed, but at a long distance, by the eocene (Nummulitic) rocks. Archaean granites and gneisses, and the lower Cretaceous rocks, occupy about equal areas of small extent, while the Chāmpāner quartzites, &c., are exposed over an area of only about 3 square miles, in about twenty different small patches. The succession of the geological formations met with in the Kāthiāwār part of the State is shown in order in the following schedule :—

I. Recent { Alluvium and subaerial deposits. Miliolite.

II. Tertiary { Dwārka beds. Gāj beds.

III. Cretaceous— Deccan trap series.

Of these the Deccan trap series is much the most important formation in every way, being in many parts of great thickness. The Tertiary Gāj and Dwārka beds are met with only in the Okhāmandal *tāluka*.

The vegetation of the greater part of Baroda territory is characteristic of a highly cultivated country, so that beyond the regular crops the plants consist mainly of field-weeds, water or marsh plants growing in or fringing rivers, and species generally met with in hedges. The hilly portions of the State have a flora that is more or less characteristic of the Western Ghāts generally. Among the weeds of cultivation the species are chiefly referable to the natural families *Gramineae*, about thirty species ; *Leguminosae*, about twenty species ; *Compositae*, *Labiatae*, and *Cyperaceae*, about ten each ; *Malvaceae*, *Scrophularineae*, *Convolvulaceae*, *Acanthaceae*, *Amarantaceae*, and *Euphorbiaceae*, from six to eight each. Aquatic or marsh plants include *Jussiaea repens*, *Trapa bispinosa*, *Caesulia axillaris*, *Ipomoea aquatica*, *Hygrophila spinosa*, *Herpestis Monnieria*, *Polygonum glabrum*, *Hydrilla verticillata*, *Vallisneria spiralis*, *Ottelia alismoides*, *Aeluropus villosus*, *Nymphaea Lotus*, *Nelumbium speciosum* (both confined to ponds), and various *Cyperaceae*. In waste places and by road-sides are found *Tridax procumbens*, *Achyranthes aspera*, *Coldenia procumbens*, *Evolvulus alsinoides*, *Tephrosia purpurea*, *Heylandia latebrosa*, *Waltheria indica*, various species of *Sida* and *Hibiscus*, *Hypoxis aurea*, *Chrozophora plicata*, *Jatropha gossypifolia*, *Argemone mexicana*, *Tribulus terrestris*, *Calotropis gigantea*, *Echinops echinatus*, *Solanum xanthocarpum*, *Datura fastuosa*, *Adhatoda Vasica*, *Clerodendron phlomoides*, *Leonotis nepetaefolia*, and various grasses such as species of *Andropogon*, *Polytoca*, and *Apluda*. Shrubs met with in waste places include *Woodfordia floribunda*, *Cassia auriculata*, and species of *Capparis* and *Zizyphus*. The more characteristic hedge-plants include species of *Maerua*, *Cadaba*, *Capparis*, *Zizyphus*, *Alangium*,

Cordia, *Vitex Negundo*, one or two of the cactus-like Euphorbias, species of *Phyllanthus*, *Flueggea*, *Jatropha*, and at times *Streblus asper*. Mixed with the shrubs in these hedges are often various trees, the most characteristic being *Bombax malabaricum*. Climbing in hedges are many *Leguminosae*, *Menispermaceae*, *Convolvulaceae*, and *Asclepiadaceae*. Among planted trees and shrubs, or sometimes semi-wild in the neighbourhood of villages, may be mentioned *Michelia Champaca*, *Artabotrys odoratissimus*, *Polyalthia longifolia*, *Anona squamosa*, *Thespesia populnea*, *Grewia asiatica*, *Aegle Marmelos*, *Zizyphus Jujuba*, *Mangifera indica*, *Spondias mangifera*, *Moringa pterygosperma*, *Dalbergia Sissoo*, *Pongamia glabra*, *Poinciana elata*, *Parkinsonia aculeata*, *Tamarindus indica*, *Bauhinia variegata*, *Albizzia Lebbek*, *Acacia arabica*, *Psidium Guyava*, *Punica Granatum*, *Opuntia nigricans*, *Cordia Myxa*, *Bassia latifolia*, *Mimusops Elengi*, *Millingtonia hortensis*, several species of *Ficus*, *Artocarpus integrifolia*, *Holoptelia integrifolia*, *Phoenix sylvestris*, and *Borassus flabellifer*.

The wild animals to be found in the Baroda State are the same as those of Gujarāt: namely, tiger, leopard, bear, hog, wolf, hyena, jackal, fox, *sāmbar*, spotted deer, barking-deer, *chinkāra*, *nīlgai*, antelope. Monkeys abound. Under game-birds may be noticed: the spur-winged goose, the common grey goose, wild duck, teal, peafowl, sand-grouse, partridge, quail, snipe, bustard, florican, plover, &c. Fish are to be found in great abundance in the Mahī and the Narbadā. Inland in the Navsāri division fishing is carried on in the Pūrna, Mindhola, and Ambikā rivers.

In the Baroda *prānt* the hottest months are May and June, when the maximum temperature is about 105°, though occasionally it rises to 107° or even to 110°. The minimum temperature during this period is about 80°. The rainy season usually sets in about the middle or latter part of June, and ends in October. During this period the climate is hot, moist, and very relaxing, with a maximum temperature of about 86° and a minimum of 78°. The cold season, which commences in November and lasts for about four months, is dry and cool, the average maximum being about 90° and the minimum 50°. The coldest months are generally December and January, while the most unhealthy are September and October. The Kadi *prānt* is the healthiest division of the State. In the hot season the temperature here is high, the average maximum being about 100° and the minimum 72°; but the rainy season is pleasantly moist and cool, forming a great contrast to the Baroda division. Moreover, Kadi enjoys a moderately good cold season, lasting from November till the middle of February, with a maximum temperature of about 90° and a minimum of 51°. In the Navsāri *prānt* a distinction must be drawn between the *rāni* or forest *mahāls* of Mahuva, Vyāra, Songarh, and part of Velāchha, which are

unhealthy, and the *rāsti mahāls* of Navsāri, Palsāna, Kāmrej, and Gandevi, where the climate is good. The *rāni mahāls* are at all times insalubrious. In the *rāsti mahāls*, the healthiest tracts during the hot season are Navsāri, Gandevi, and Bilimora. Here the close proximity of the sea maintains a moist and temperate climate; and though the early part of the hot season is somewhat heavy and close, the regular sea-breezes, which set in towards the end of April, produce a most agreeable change. The maximum temperature during the hot season is 101° and the minimum 74°. In the rainy season the corresponding figures are 91° and 70°, and in the cold season 87° and 60°. In the Amreli *prānt* the climate, except in the Dhāri and Kodinār *tālukas*, which are malarious and enervating, may be described as dry and salubrious. The hot season, which lasts from March to June, has an average maximum of 98° and a minimum of 84°. During this portion of the year fresh and cool breezes nearly always set in at evening. In the rainy season the maximum is 88° and the minimum 77°, while in the cold season the corresponding figures are 88° and 60°.

In 1881 it was calculated, probably on very imperfect data, that the average rainfall of the State amounted to 58 inches in Navsāri, 37·3 in Baroda, 32 in Kadi, and 21·4 in Amreli. The similar averages arrived at for the decades 1882–1891 and 1892–1901 give the following result:—

	1882–91.	1892–1901.
	Inches.	Inches.
Navsāri . . .	53·9	51·9
Baroda . . .	37·9	38·1
Kadi . . .	30·1	27·4
Amreli . . .	22·3	21·6

It will thus be noticed that, though the Southern Gujarāt divisions are much more favoured than the northern ones, in the Navsāri division rainfall appears to be steadily diminishing, and the same remark holds good with reference to Kadi.

History.

The history of the Baroda State as such dates only from the break-up of the Mughal empire. For previous events see BOMBAY PRESIDENCY and GUJARĀT.

The first Marāthā invasion of Gujarāt took place in 1705. A few years later, in 1712, a Marāthā leader, Khande Rao Dābhāde by name, became so powerful that he was able to exact a fourth of the effects of all travellers who did not purchase his passport. He afterwards took part in various battles with the Muhammadan viceroys, and finally returned to Sātāra, where he was created Senāpati or commander-in-chief in 1716. Four years later the emperor Muhammad Shāh granted the Marāthās the right to levy *chauth* (a quarter of the revenues) in

Gujarāt. Khande Rao was some time afterwards present at the battle of Bālāpur, where his troops behaved with great bravery; and it was on this occasion that one of his officers, Dāmāji Gaikwār, distinguished himself so much that he obtained the title of Shamsher Bahādur, or the 'illustrious swordsman,' a title which has been borne by the Gaikwārs ever since. In 1721 Khande Rao and Dāmāji both died, the former being succeeded by his son Trimbak Rao, and the latter by his nephew, Pilāji.

Pilāji Gaikwār, who may be considered as the founder of the present ruling family, obtained the command of a *pāga*, and thereafter distinguished himself by his incursions into Gujarāt. But in consequence of internal dissensions he was obliged to remove to Songarh, and it was from here that he conducted his future raids. Not only was Songarh, therefore, the cradle of the Gaikwār house, but it continued to be their head-quarters till 1766. For several years Pilāji, aided by other Marāthā chiefs, invaded and exacted tribute from the Surat *atthāvisi* or 'twenty-eight subdivisions.' In 1723 he marched on Surat itself, defeated the governor, and from that time began regularly to levy tribute in Gujarāt. Help was afterwards afforded him by the Desais of Pādra, Chhani, and Bhayali, by whose assistance he was enabled to direct his ravages as far as the Mahī river. In 1725, after establishing his claim to the districts south of the Mahī—namely, Baroda, Nāndod, Chāmpāner, Broach, and Surat—he returned to his stronghold of Songarh, while at about the same time his superior, the Senāpati, established himself at Dabhoi, not far from Baroda, making this place, which had been captured by Pilāji, his regular head-quarters. Reverses now began to befall the Marāthas, and for a time they almost lost the hold they had gained over Gujarāt. Pilāji himself was forced to fly to Cambay, and thereafter to Sorath. But the Muhammadan viceroy, Sarbuland Khān, owing to want of succour from Delhi, rapidly lost ground in his turn, and was obliged to cede to Pilāji a share in the *chauth* of the districts south of the Mahī. On the other hand, as Pilāji was the agent of the Peshwā's rival the Senāpati, the Peshwā directed his own adherent, the Ponwār, to drive Pilāji out. Sarbuland Khān now came to terms with Peshwā Bājī Rao, and promised him the *chauth* and *sardeshmukhi* (an additional tenth), on condition that the Peshwā should support him against Pilāji and other Marāthā leaders. Notwithstanding this, in 1727 Pilāji succeeded in capturing both Baroda and Dabhoi. The next event that happened was that Sarbuland Khān's grants to the Peshwā were not ratified at the Delhi court, and he was replaced as viceroy in 1730 by Abhai Singh, Rājā of Jodhpur. As soon as the latter was in power, Bājī Rao concerted with him to oppose Pilāji, and, if possible, to turn him out of Baroda. For this purpose the Peshwā advanced to lay siege to that town in 1731,

but was called away by the news that Nizām-ul-mulk's army was preparing to attack him. During his march he met the main army of the Senāpati, who was supported by the Gaikwār, and utterly routed it. This was the celebrated battle of Bhilapur, which took place in 1731. Pilāji, who was grievously wounded, had again to retire to Songarh; but, fortunately for him, the Peshwā did not deem it politic to crush completely the other Marāthā chiefs, and so he nominated Pilāji as *mutālik* of the new Senāpati, Jaswant Rao Dābhāde (appointed in the place of his father, who had been slain in the battle). At the same time he conferred on Pilāji the title of Sena Khās Khel ('leader of the sovereign band'). Pilāji, as *mutālik*, had now all the resources of the Senāpati at his disposal; but his energetic career was put a stop to in 1732, when he was assassinated at Dākor by the agents of Abhai Singh.

Pilāji was succeeded by his son Dāmāji, who at the beginning of his career had many troubles to contend with. Abhai Singh, taking advantage of the confusion into which the death of Pilāji had thrown the Marāthās, marched rapidly on Baroda, and captured both the fort and the town. Dāmāji thereupon fell back upon Dabhoi, and busied himself with preparations for reprisals in the direction of Ahmadābād. This raid met with partial success, and he was also fortunate in other expeditions, the result being that Baroda was recaptured in 1734, since which date it has always been in the hands of the Gaikwārs. After this event the Gaikwār's power began to develop rapidly, and Abhai Singh was consequently constrained in 1737 to abandon Gujarāt altogether. Thereafter Momin Khān, who had succeeded Abhai Singh as Mughal viceroy, but found it difficult to maintain his position at Ahmadābād, summoned Rangoji, Dāmāji's general, to his assistance, promising that he would, with certain exceptions, grant the Gaikwār one-half of the revenue of Gujarāt. This viceroy remained the ally of the Gaikwār until his death, in 1742.

About this period Dāmāji's power increased very rapidly, in both Gujarāt and Kāthiāwār. This may be inferred from his capture of Bānsāh, near Ahmādābād, and from his demonstration against Broach, which was held by an agent for the Nizām, upon which occasion it is said that he succeeded in obtaining a share in the customs of the city. Moreover as the Senāpati, Jaswant Rao Dābhāde, had proved utterly incompetent for his situation, Dāmāji held the real power as agent for the late Senāpati's widow; so much so, that when she died in 1747, he was nominated deputy of the Peshwā in Gujarāt. It was while his power was thus increasing that Dāmāji was incited to make an inroad into Mālwā, which was very successful. After Momin Khān's death, Fidā-ud-dīn was appointed viceroy. He began proceedings by vigorously attacking and defeating Rangoji; but on the return

of Dāmāji from Mālwā, matters took a turn in favour of the Marāthās. Fida-ud-dīn fled the country, Rangoji captured Petlād, and Dāmāji's brother, Khande Rao, established the rights of his family to share in the city of Ahmadābād. Meanwhile, there had been dissensions at Surat, which resulted, in 1751, in a share of the revenue of that city being granted to Dāmāji, an equal share being subsequently allotted to the Peshwā. In 1751 Dāmāji was called upon by Tārābai of Sātāra to rescue her grandson, the representative of Sivajī, from the Brāhmans. In response to this request, he at once left Songarh with an army of 15,000 men, and attacked and defeated at Nimb a much stronger force which opposed his march. But disaster afterwards befell him, and he was finally hemmed in by the Peshwā's army. Dāmāji then offered to come to terms with the Peshwā; but the latter, pretending to consider the matter, enticed him into his neighbourhood, and then suddenly seized him and imprisoned him at Poona. The Peshwā now made great efforts to wrest Gujarāt from the Mughal and the Gaikwār party; but failing in his attempts, he resolved to come to terms with Dāmāji, and the latter found himself obliged to accept the Peshwā's conditions, which involved the cession of half of Gujarāt and of all future conquests. He was also to maintain 10,000 horse, to assist the Peshwā in time of need, and to pay $5\frac{1}{4}$ lakhs as tribute. The next event of importance which took place was the campaign of Dāmāji and other powerful Marāthā chiefs in 1753, which resulted in the fall of Ahmadābād. From this time the Mughal authority in Gujarāt practically came to an end, and the country was divided between the Peshwā and the Gaikwār, according to the terms previously settled.

Dāmāji Gaikwār was one of the many great Marāthā chiefs who marched to fight Ahmad Shāh Durrāni, and in the fatal struggle which took place on the plain of Pānīpat (1761) he and his troops distinguished themselves highly. He was fortunate enough to escape death, and to make an honourable return to Gujarāt. There he continued with undiminished vigour to crush the combined efforts of the Musalmāns, who had hoped to win something by the great disaster which had befallen the Marāthās. It was shortly after this that Dāmāji transferred his capital from Songarh to Pātan (the ancient Anhilvāda). Between 1763 and 1766 he took possession of almost the whole of what is now the Kadi *prānt*, and thereafter added very considerably to his power and revenue by conquests in Kāthiāwār. He also levied tribute on the States of Idar and Rājpīpla. The disaster at Pānīpat was shortly followed by the death of the Peshwā Bālāji, when the rule passed to the youthful Mādhava Rao, who was soon thwarted by his ambitious uncle, Raghunāth Rao (Raghuba), with whom Dāmāji elected to make a close alliance. But in 1768 Mādhava Rao defeated the allies at Dhodap, and captured Raghunāth Rao and Dāmāji's son, Govind Rao. The most

onerous terms were again exacted from the Gaikwār by the Peshwā; and as Dāmāji himself died soon after the battle, it appeared as if the prosperity of his house had come to an end.

Dāmāji left behind him six sons, of whom the eldest, Sayāji Rao, an idiot, and the second, Govind Rao, a weak and vacillating character, at once claimed the *gaddi*. These rivals were under the necessity of abiding by the arbitration of the Peshwā, who thereupon released Govind Rao from his imprisonment at Poona, and confirmed him in the title, but only after he had agreed to pay a very large sum. In the meantime, Fateh Singh, the youngest son of Dāmāji, occupied the city of Baroda on behalf of Sayāji Rao. In 1771 Fateh Singh proceeded to Poona, and there obtained a revision of the Peshwā's decision. Sayāji Rao, whose position, however, was always merely nominal, was now declared Sena Khās Khel, and Fateh Singh was appointed his *mutālik*. These arrangements had, however, scarcely been completed, when Khande Rao, a younger son of Pilāji Gaikwār, on whom his father had bestowed the governorship of Kadi, began to disturb the country, first assisting one nephew and then the other, just as his policy dictated. Fateh Singh, being under the apprehension that in this disturbed state of affairs the Poona court would have little difficulty in acquiring Gujarāt, returned from Poona to Baroda, and made overtures to the East India Company. In 1772, when Broach was taken by assault by the British, he entered into a treaty with the Bombay Government for a mutual participation in the revenues of the conquered districts. But further proposals of Fateh Singh being refused, he and Govind Rao were left for some time to fight out their quarrel by themselves. In the meanwhile, Raghuba, who had made himself Peshwā, reversed the decision given in favour of Sayāji Rao and recognized his old ally, Govind Rao, as Sena Khās Khel. Raghuba himself was soon after ousted from Poona by a Regency established on behalf of his infant grand-nephew (Mādhava Rao II); but in March, 1775, he obtained the support of the Bombay Government by the Treaty of Surat, under the sixth article of which he engaged himself to 'procure from the Gaikwār a grant to the Company for ever of his share in the revenues of the town and *pargana* of Broach.' On this treaty being disallowed by the Supreme Government and replaced by the Treaty of Purandhar with the Poona Regency, the rival Gaikwārs, who had been in continuous conflict, were again left to settle their own disputes. What followed is not accurately known; but the upshot was that in February, 1778, Fateh Singh obtained from Poona the title of Sena Khās Khel, and Govind Rao had to be content with a *jāgīr* of 2 lakhs.

Fateh Singh devoted the first part of his undisturbed rule to an attempt to get back from the Company Broach and the districts

adjoining, which had been handed over by the Mārāthās in virtue of the Treaty of Purandhar (1776); but his efforts were unsuccessful. In 1779 a second war broke out between the Poona Regency and the British, and Fateh Singh entered into an alliance with the latter. This was ratified by a treaty made at Kandila (Dabhoi) in January, 1780, by the terms of which Fateh Singh was to become independent of the Peshwā, and was to retain his own share of Gujarāt, while the British took the Peshwā's portion. This arrangement was afterwards virtually cancelled by the Treaty of Sālbai. In February, 1780, Holkar and Sindhia, as the Peshwā's allies, crossed the Narbadā and attacked Dabhoi, a town which was bravely defended by Mr. James Forbes (well-known as the author of the *Oriental Memoirs*). The war afterwards dragged on without any decided results, Fateh Singh remaining faithful to the British, notwithstanding the efforts of Sindhia to win him over. It was concluded by the Treaty of Sālbai (May, 1782), the general effect of which was to leave the Gaikwār in his old position. He retained what he had before the commencement of the war, but he was for the future to pay tribute to Poona as usual. Fateh Singh died in December, 1789.

In spite of the remonstrances of Govind Rao, another brother, Mānāji, at once assumed the reins of government, and paid a large sum to Poona as *nazar*. Sindhia, however, supported the cause of Govind Rao, and the rivalry between the brothers was kept alive until Mānāji's death, which occurred in August, 1793. The imbecile Sayāji Rao had died in the previous year. Govind Rao was now allowed to assume, or rather to purchase, the title of Sena Khās Khel. The demands made by the Poona court were so heavy that the Company was compelled to interfere in order to prevent the dismemberment of the Baroda State. Before entering his capital, Govind Rao had one more struggle, for a rebellion was raised against him by his own illegitimate son, Kanhojī. The latter was, however, betrayed by his own forces, and was obliged to surrender to his father. Afterwards he escaped and was joined in a fresh insurrection by Malhār Rao, the son of Khande Rao, previously mentioned, who had died in 1785. But the two quarrelled, Kanhojī was again betrayed and imprisoned, and Malhār Rao was forced to purchase peace. The matter of greatest interest which occurred during the rule of Govind Rao was his campaign against Aba Shelukar, who had been entrusted with the revenue management of the Ahmadābād district on behalf of the Peshwā. Several engagements took place, and finally Shelukar was betrayed by his own troops and imprisoned at Baroda. Hostilities now ceased, and the Peshwā in 1799, for the first time, leased the Ahmadābād territory to the Gaikwār. Shortly afterwards, in September, 1800, Govind Rao died.

Anand Rao, the eldest legitimate son of Govind Rao, succeeded;

but he was of weak mind, and his position was soon disputed by his illegitimate brother Kanhojī and the latter's old ally Malhār Rao. Both parties appealed to the Bombay Government, which decided in favour of Anand Rao; and in April, 1802, a force from Cambay entered Kadi and established Anand Rao's authority. This was the first of many services rendered to the Baroda State by the Bombay Government, and the latter was not slow to claim an ample reward. A treaty was signed in July, 1802, by which considerable territories were ceded to the Company, and the right of British interference in the case of anything improper or unjust being done by Anand Rao or his successors was acknowledged. From this time the authority of the British Resident at Baroda was paramount. It was at the same period that Holkar and Sindhia, who were at war with each other, covered Central India with their armies and threw covetous eyes on Gujarāt. Holkar's attempt was at once frustrated; but Sindhia's designs were more alarming, as he sent an army of 12,000 or 14,000 men in the direction of the northern districts. He was, however, pacified when, with the assistance of the British, he received 10 lakhs which he claimed to be due to him. In 1804 the Peshwā again renewed the lease of the Ahmadābād territory to the Gaikwār, for a term of ten years, at the rental of $4\frac{1}{2}$ lakhs per annum.

In April, 1805, a definitive treaty was concluded between the British Government and the State of Baroda, by which the establishment of a Subsidiary force and the cession of certain districts for its maintenance were settled. This treaty also contained articles to the effect that the foreign policy of the State should be conducted by the British, and that all differences with the Peshwā should be similarly arranged. Fateh Singh, a younger brother of Anand Rao, became a member of the State council in 1807, and gradually exercised increased powers. In 1812 the celebrated Gangādhar Sāstri became Minister. The restless intriguer, Kanhojī, again endeavoured to subvert his brother's administration; but the plot was discovered in good time, and Kanhojī was arrested and promptly deported to Madras. The long-pending claims of the Peshwā on the Gaikwār now came up for settlement; and, as the political relations between the States were anything but friendly, it was feared that the lease of Ahmadābād would not be renewed. Gangādhar Sāstri was accordingly deputed to negotiate at Poona. As a result of intrigues, set on foot by Sītārām, a dismissed Minister of Baroda, the Peshwā refused to listen to the terms offered by the Sāstri, assigned the Ahmadābād farm to Trimbakji Danglia, and left all other points unsettled. While negotiations were still being carried on, Gangādhar Sāstri was murdered. An attempt at a revolution in Sītārām's favour followed, but it proved abortive, and finally in 1816 the ex-Minister was deported to Navsāri.

A confederacy of the great Marāthā chiefs had now been formed, and the Peshwā was tampering with Fateh Singh, while his agents were causing disturbances in Kāthiāwār. The question of the Peshwā's claims on the Gaikwār was opened afresh, and matters proceeded so far that every preparation for war between the British and the Peshwā had been made, when the latter suddenly gave way, the result being that a treaty was signed at Poona in 1817. Under this the Gaikwār became independent of the Peshwā, who surrendered all past claims for an annual payment of 4 lakhs, the tribute of Kāthiāwār was ceded to the British, and Ahmadābād was farmed in perpetuity to the Gaikwār for 4½ lakhs per annum. In November of the same year a supplemental treaty was entered into with the Gaikwār, by which the latter consented to make additions to the Subsidiary force, ceded his share of Ahmadābād on payment of its estimated value, and obtained the province of Okhāmandal and the island of Beyt, &c. It is unnecessary to describe here the wars which ensued almost immediately with Bājī Rao Peshwā, the Rājā of Nāgpur, the Pindāri hordes, and Holkar, during which Fateh Singh behaved as a stanch ally of the British. The reward for his valuable aid was the remission of the tribute of 4 lakhs, due to the Peshwā, whose power was now destroyed. Shortly afterwards, in 1818, Fateh Singh died, and was succeeded in the regency by his younger brother, Sayāji Rao. Anand Rao himself died in 1819, and Sayāji Rao ruled in his own name.

In 1820 the commission, which, with the Resident at its head, had carried on the administration during the reign of Anand Rao, was abolished, and the Gaikwār appointed two Ministers, but, as he trusted neither, employed Mīr Sarfarāz Alī to watch them both. The State was, however, in great pecuniary embarrassment; and as the Gaikwār refused to follow the advice of the Resident, affairs, both financial and political, rapidly grew worse. After much delay Sayāji Rao consented to the issue of septennial leases of the *mahāls* to respectable men, instead of annual leases to persons of doubtful means and position. The intrigues which followed the adoption of this reform led to the dismissal of one of the Ministers and the appointment of two joint Dīwāns. In 1828 Sir John Malcolm, Governor of Bombay, issued a proclamation announcing the temporary sequestration of Petlād, Dabhoi, Kadi, Amreli, &c., the annual value of which was estimated at 10 lakhs. And again in 1830, districts to the annual value of about 10 lakhs were attached, in order to provide for the reorganization of the Contingent of 3,000 horse; but this second sequestration was disapproved by the Court of Directors in 1832, and the territory was restored. In 1831 Sir John Malcolm was succeeded by Lord Clare, who attempted by conciliatory measures to undo the consequences of his predecessor's severity. Steps were taken to satisfy the creditors

of the State, and the Gaikwār pledged himself to keep the Contingent in an efficient condition. Unfortunately, however, a period of misgovernment again began, and all remonstrances were unheeded. The deposition of Sayāji Rao was contemplated in 1838, but in 1839 he made a complete submission and expressed his desire to conform to the wishes of the Government. A better system of administration was introduced into that portion of Kāthiāwār which belonged to the Gaikwār, and compensation was paid for robberies committed by Baroda subjects. But corrupt practices still prevailed at Baroda, not only in and about the court, but also in the Resident's office, and intrigues were rampant.

In 1847 Sayāji was succeeded by his eldest son, Ganpat Rao, who introduced many reforms into the State. Influenced by the Resident, he built roads, bridges, and *sarais*, planted wayside trees, prohibited infanticide and the sale of children, settled claims for robberies committed in the State, and generally pursued a path of progress. In 1854 the political supervision of Baroda was transferred from the Government of Bombay to the Supreme Government. The last year of Ganpat Rao's life (1856) was marked by his cession of land required for the construction of the Bombay, Baroda, and Central India Railway.

As Ganpat Rao left no legitimate male issue, he was succeeded by the eldest of his surviving brothers, Khande Rao. During the Mutiny the young Gaikwār stood stanchly by the British, and assisted in maintaining peace and security in Gujarāt. In 1862 he received the right of adoption. He was also created a G.C.S.I. Khande Rao, especially at the beginning of his reign, desired to improve the administration of the State, and introduced some beneficial changes; but his fondness for the chase, jewels, displays, and buildings left him no money to spend on useful public works. However, he constructed the branch railway from Miyāgām to Dabhoi, attempted to improve the land revenue system, and commenced a revenue survey.

At the time of Khande Rao's death in 1870, his brother Malhār Rao, who had been engaged in a plot for his deposition, was a prisoner at Pādra. But as he was the undisputed heir in default of legitimate sons, he was at once released and proclaimed Mahārājā. From the outset Malhār Rao determined to take revenge for the sufferings he had endured at Pādra, and consequently ill-treated Khande Rao's servants and dependents. The administration rapidly deteriorated, the weight of taxation was increased, and folly, extravagance, and cruelty prevailed. The Bombay Government, to which the direction of affairs in Baroda had been restored in 1860, appointed Colonel Phayre as Resident, who devoted all his energies to exposing abuses. As a result of Colonel Phayre's strong representations, the Government of India appointed

a Commission of inquiry, which reported that the charge of general maladministration was proved. Malhār Rao was warned that he would be held responsible, and called upon to effect thorough reforms before the end of 1875. In consequence of the strained relations between the Resident and the Mahārājā, it was determined to appoint Colonel Sir Lewis Pelly, in place of Colonel Phayre, as Special Commissioner and Agent to the Governor-General. Meanwhile, in November, 1874, an attempt to poison Colonel Phayre was reported. Sir Lewis Pelly arrived in December and assumed the virtual direction of the administration. Inquiries were made into the poisoning case; and the Government of India issued a proclamation in January, 1875, notifying that the Gaikwār had been arrested, and that, pending the result of an investigation by a Commission, they had assumed the administration of the State. The Commission, which was presided over by Sir Richard Couch, Chief Justice of Bengal, was not unanimous in its finding. The three English members came to the conclusion that an attempt to poison Colonel Phayre had been instigated by Malhār Rao, while the three native members did not consider him guilty. It was finally decided, as stated in a proclamation issued in 1875, that the Mahārājā must be deposed, 'not because the British Government have assumed that the result of the inquiry has been to prove the truth of the imputation against His Highness, but because, having regard to all the circumstances relating to the affairs of Baroda from the accession of His Highness Malhār Rao, his notorious misconduct, his gross misgovernment of the State, and his evident incapacity to carry into effect necessary reforms,' the step was imperatively called for. In accordance with this resolution, Malhār Rao was at once deported to Madras, where he resided under the surveillance of a British officer until his death in 1893.

Jamnābai, widow of Khande Rao, returned to Baroda, and, with the consent of the Government of India, formally adopted as the son and heir of Khande Rao, with the name of Sayāji Rao, a boy of thirteen years of age, who was descended from a distant branch of the family. During his minority the administration was conducted by Rājā Sir T. Mādhava Rao as Dīwān, and great reforms were inaugurated in every branch of the service. The finances were restored to a healthy condition, an efficient revenue system was introduced, vexatious taxes were swept away, the judicial, police, medical, and educational departments were reorganized, the system of railways was widely extended, and public buildings were erected in all parts of the State. In 1881 Sayāji Rao, whose education had been carefully supervised by a European tutor, was formally installed and invested with full powers. He immediately commenced his career by entering vigorously into every detail of the administration, as will be described below. He

bears the hereditary title of Mahārājā, and is entitled to a salute of 21 guns.

The style of architecture, as in the rest of Gujarāt, is that sometimes called Jain, though many of the finest temples are Hindu. It is remarkable that the art is still living, and has not been replaced by inferior work in brick and plaster, as in some parts of India. The temples are distinguished by tapering spires or *sikharas*, ornamented gateways, halls or *mandapas*, and ornamental archways in front of the main buildings. The earliest buildings were probably of brick; but later the sandstone of northern Kāthiāwār came into use, while white marble was also employed, though the latter material has been carried away and burnt for lime. Many temples were destroyed by the Muhammadans. The chief remains now existing are at PĀTAN, SIDHPUR, MODHERA, DABHOI, and VADNAGAR; but a number of places still await examination.

Population.

The table on p. 77 shows the chief statistics of population in 1901. The density of population for the whole State is 229 persons per square mile, ranging from 147 in Amreli to 288 in the Baroda *prānt*, excluding the city. In the small island of Beyt and in the city of Baroda the density is far greater, rising to 1,153 and 11,532 persons per square mile. The rural population is about three times as great as that of the towns.

In 1872 the population was estimated at 2,004,442, while in 1881 it was 2,185,005, an increase of 9 per cent. In 1891 the number further rose to 2,415,396, or by 10·7 per cent. Ten years later the population was only 1,952,692, a decrease of 19 per cent. This diminution, chiefly due to the effects of plague and famine, was not uniform for all parts of the State; for while in Amreli and Navsāri the decrease was 3·7 per cent. and 5·9 per cent. respectively, in Baroda it was 22·8 per cent. and in Kadi 24 per cent. The city of Baroda lost 10·8 per cent. of its population in the same period.

Of the total population in 1901, 1,546,992 were returned as Hindus, 176,250 as Animists, 165,014 as Musalmāns, 48,290 as Jains, 8,409 as Pārsīs, 7,691 as Christians, 38 as Sikhs, and 8 as Jews. Taking the three main sects of Hindus, Saivas numbered 276,489, Sāktas 260,096, and Vaishnavas 1,010,351. The Jains are divided into three sects: the Swetāmbari with 34,410 adherents, the Digambari with 9,599, and the Dhūndhia with 4,281. Musalmāns have two main sects: the Sunnis, 129,508, and the Shiahs, 35,506. The Pārsīs may also be divided into two sects: the Shahanshāhis (or Shenshais), 6,010 in number, and the Kadīmis, 2,399. Animists include all members of the forest tribes who are neither Hindus, Musalmāns, nor Christians.

The age statistics, as elsewhere, are unreliable, and only a few

general conclusions can be drawn from the results of the Census. Of the total population, children under the age of 5 formed only 10 per cent., those from 5 to 15 formed 25 per cent., adults between 15 and 40 formed 45 per cent., and those above 40 formed 20 per cent. These figures point to the effects of famine, and a comparison between the statistics of 1891 and 1901 shows still more clearly the disastrous nature of the decade. While the decrease in population at all ages was 19·2 per cent., the number of children under 10 fell by 35·6 per cent., and the number of persons over 60 by 40·6 per cent. The mean age for males is 23·56, and for females 23·76.

Except in the city of Baroda, no rules are in force requiring the registration of births or deaths, but it has been the custom for the police and *pātels* to make monthly reports through the *tāluka* officers to the Sanitary Commissioner. More effective regulations have, however, been made for the future. In 1899–1900 the recorded birth-rate was 13 per thousand, and the death-rate 54·5. That year was, however, one of great distress, and during the previous five years mortality had averaged only 17·7 per thousand. In 1904–5 the births reported were 22·3 per thousand and the deaths 24·7. More than half the deaths are ascribed to fever, but the diagnosis, as usual, is faulty. Guinea-worm is common in Okhāmandal and Kodinār. Epidemics of cholera and small-pox are not uncommon, and 39,300 deaths from the former and 6,300 from the latter disease were recorded in the decade ending 1900–1.

Plague made its first appearance in the latter part of 1897, and since that time has caused considerable ravages. By the end of 1904–5 the number of deaths due to this cause alone was 44,251, but here again the statistics are not very trustworthy. The worst year was 1903–4, in which nearly 15,000 deaths were recorded. In the beginning of the plague epidemic the measures resorted to by the State were much the same as those adopted in British territory. A great portion of the city of Baroda was evacuated, and the people were located in sheds erected in fields outside. Persons coming from other affected parts were quarantined for a minimum period of ten days. All houses were white-washed, and disinfectants were freely used. A similar course was adopted at Petlād, Navsāri, and other towns. But as forcible segregation and other coercive proceedings led to no appreciable benefit, the only preventive measures now in force are thorough cleansing, disinfection, and the distribution of medicine.

Males exceed females by 64,576, the former numbering 1,008,634 and the latter 944,058. This deficiency of females is a characteristic of Gujarāt generally. Taking the different religions, it appears that among the Hindus there are 929 females to every 1,000 males, among the Jains 951, among the Musalmāns 956, among the Christians 819,

and among the Animists 971. The Pārsīs form an exception, the rates for this community being 1,265 females per 1,000 males.

Of the whole population, 35·2 per cent. of both sexes are unmarried, 50·1 per cent. married, and 14·7 per cent. widowed. The following table compares the actual numbers of either sex in 1891 and 1901:—

	1891.			1901.		
	Persons.	Males.	Females.	Persons.	Males.	Females.
Married .	1,287,575	646,315	641,260	978,626	487,550	491,076
Unmarried	889,992	541,592	348,400	687,211	422,415	264,796
Widowed .	237,829	65,076	172,753	286,855	98,669	188,186

Among Hindus the first decade of life includes 1,584 widows and 21,431 wives, while the next age period (10–15) includes 4,287 widows and 54,955 wives. Thus before reaching what is considered in most countries the marriageable age, there are already in this State 5,871 widows and 76,386 girl-wives. At each age-period the number of widows increases until the maximum is reached at the ages 40–5. The number of widowers is also greatest at this period. Nearly 51 per cent. of Hindus are married, 48 per cent. of Jains and Musalmāns, 47 per cent. of Animists, and 44 per cent. of Pārsīs.

Every Hindu considers that his eternal welfare depends upon his having a son, while the custom of marrying girls at a tender age is very common. Hence arise early and unequal marriages, polygamy, early maternity, a high birth-rate, a terrible mortality among children and child-mothers, early decay in both sexes, and a surplus of widows. Steps have, however, been taken to minimize these evils by the passing of Acts to legalize the remarriage of widows (1902), and to discourage the marriage of infants (1904). The latter measure forbids the marriage of girls under 12, except with the permission of a court, and in the first year of working 718 offenders were fined under its provisions. In such castes as the Audīchya Brāhmans polygamy prevails, because the number of marriageable girls is greater than that of the males. Polygamy is also found among the Rājputs and some other castes. Divorce is allowed among many castes of Hindus, especially the lower ones which permit widow remarriage. Sometimes it is obtained under caste rules, while at other times people resort to the courts.

Practically the whole population speak languages of the Indo-European family, only 453 speakers of Dravidian languages, 4 of Mongolian languages, and 153 of Semitic languages being recorded. In the first group the number of persons speaking Gujarātī is 1,773,594, Marāthī 38,605, and Hindustāni or Urdū 68,815. There are also many Bhīl and Gipsy dialects, the former being spoken by 68,503 persons.

At the Census of 1901 castes were classified, according to the traditional arrangement, in four groups. Brāhmans number 145,000, or 9 per cent. of the total Hindu population. The principal class is that of Gujarātī Brāhmans, who number 128,000. Marāthā Brāhmans are comparatively numerous (14,000). The representatives of the Kshattriyas (106,200) were arranged according to their traditional occupations as warriors (90,500), traders (11,500), and writers (4,200), the first class containing 59,000 Rājputs. Similarly the Vaisyas (459,000) may be divided into Baniās or traders (48,000), and Kunbīs (411,000), who are agriculturists. The Sūdras are divided into 'clean' castes and 'unclean.' Among the former are found a large number of occupational groups, none of which is singly of great importance except the Kolīs (325,000). More than half the unclean classes are included in the Dheds (94,000). Most of the Jains are Baniās (39,500). The Animists differ in physical type from the Hindus and Jains, being short in stature, with broad flat noses and faces, and much darker in colour. The most numerous of these tribes are the Gāmits (38,200), Bhīls (37,700), Dublās (28,500), and Chodhrās (23,300). Among Musalmāns the most numerous groups are Arabs (29,700) and Shaikhs (56,700), the latter being largely descended from Hindu ancestors.

The Girāsiās, Kāthis, Marāthās, and Wāghers, whose traditional occupation is military service, have maintained this to some extent, but nowadays many have taken to agricultural or other pursuits. The cultivators, who are generally Kunbīs, Kolīs, or Mālis, scarcely ever follow any other occupation. The Rabāris, again, who are graziers and cultivators, remain almost constant to their hereditary employment, only 10 per cent. resorting to other occupations. With the Brāhmans the case is different, as many of the caste have taken largely to agriculture. Most of the Prabhus or writers are employed in service, while about one-third of the Baniās still follow their traditional occupation of trade and commerce, the remainder devoting themselves to service and agriculture.

Of the total population, the number of actual workers of both sexes is about 47 per cent., and of these nearly 68 per cent. are males. Agriculture and pasture support 54 per cent. of the people, the preparation and supply of material substances 14 per cent., unskilled labour 13 per cent., personal services 5 per cent., and commerce 4 per cent.

The staple food of the higher-class Hindus consists generally of rice, wheat, pulse, and *bājra*. Vegetables of all kinds are freely used, cooked with *ghī*, salt, spices, turmeric, &c. Cakes made from *bājra* and wheat-flour are partaken of with milk, for both dinner and supper. Among agriculturists, however, the usual food is *khichri* (a spiced mixture of rice and *tuver*) and curry. The poorer classes use *jowār* as their chief food-grain, and also *kodra*, *bavto*, and *banti*.

Dhotars or waistcloths form the common dress of Hindus. The upper garments worn by males of the better class are *badans* and *bandis* reaching from the neck to the waist, and *angarkhās* extending as far as the knees. Many educated Hindus, however, now wear shirts, coats, and pantaloons. Females wear *chanios* or petticoat *sāllās*, and *cholīs* or bodices with sleeves as far as the elbows. The poorer classes do not use *cholīs*.

In large towns the dwelling-houses are often situated in court-yards with one entrance only, called *khadkis*. This was necessitated by the want of safety in former days. The houses of the rich are built of brick, and have usually two storeys and an average of seven rooms. The poor live in mud huts with one floor only, and usually two rooms.

The chief outdoor games played by the young are *gilli-dando*, *attiso-mattiso*, *amla-pipli*, &c. These all involve running and catching, and are very popular. In towns indoor amusements, such as cards, chess, &c., are more resorted to.

The Dewāli holidays, which occur during October or November, are the most noteworthy of the Hindu festivals. The temples are filled with devotees, the people put on their best attire, and the streets and houses are illuminated with lamps. At this time merchants and shop-keepers worship their account-books and open new ones. The Holī takes place in February or March, the Makar Sankrānti in January. Other festivals are the Mahā Sivarātri, the Rāma Navami, and the Janma Ashtami. In the city of Baroda the Muhammadan festival of the Muharram is patronized by the Gaikwār, and many Hindus join in the procession. But the greatest of all attractions to the people is probably the Dasara procession, which generally takes place in October.

Agriculture.

The soils are mainly alluvial, except in the hilly parts of the Navsāri and Amreli *prānts*, and in the south-east corner of the Baroda *prānt*, where they are mostly formed by the disintegration of the underlying rocks. These alluvial soils may roughly be divided into *gorāt* or light red (sand and sandy loams), *besār* or mixed (loams), and *kālī* or black. The land is generally flat, here and there relieved by small hills, and in consequence the ground is easy to work. This, however, is not the case in the *rāni mahāls* of the Navsāri *prānt*, which are mountainous, or in the eastern parts of the Baroda *prānt*, which are hilly and wooded. The rainfall in different parts has already been referred to.

Crops are mainly divided into the 'rains' or *kharīf* crops and the 'dry' or *rabi* crops. The former are sown in June or July, and reaped in October or November; the latter are sown in October or November, and reaped in March or April. In the Navsāri *prānt* the *gorāt* lands

produce all kinds of *jarāyat* or 'dry' and *bāgāyat* or garden crops, while the crops raised on black soil are rice, cotton, *jowār*, wheat, *tuver*, *bājra*, and *adad*. Of these, rice and cotton flourish best, the remaining crops being deficient in out-turn and of inferior quality. In the Baroda *prānt*, Kāhnam is famous for its superior black soil, which produces cotton and rice in abundance. This soil requires no manure, and is not irrigated, so that garden cultivation does not exist. The *gorāt* soil is generally irrigated, and wherever this is possible it yields large returns. It is specially utilized for the growth of *bājra*. The best kind of *gorāt* is found near Petlād, in Charotar, and is especially suited to tobacco. In the Kadi *prānt* the soil is well adapted for the cultivation of poppy for opium, and in Amreli for the cultivation of cotton. The agricultural implements used in different parts of the State are of simple construction. They include the mattock (*kodāli*), the hoe (*kharpī*), the small plough (*hol*), the large plough (*nāgar*), and the sickle (*dātardu*). The small plough serves only to scratch up the surface of the soil. The *nāgar*, which resembles the *hol* in construction but is much heavier, is employed mostly in the cultivation of sugar-cane.

In the whole State 1,014,027 persons, or 52 per cent. of the total, are supported by agriculture, of whom 45 per cent. are actual workers and 55 per cent. are dependents. The proportion is lowest in the Amreli *prānt* (40·7 per cent.), as the soil here is difficult to work. It rises to 66·2 per cent. in Navsāri, because the only pursuit followed by the forest tribes, who are numerous there, is agriculture.

The principal crops are rice (*Oryza sativa*), *bājra* (*Pennisetum typhoideum*), *jowār* (*Sorghum vulgare*), wheat (*Triticum sativum*), *math* (*Phaseolus aconitifolius*), gram (*Cicer arietinum*), *adad* (*Phaseolus radiatus*), *tuver* (*Cajanus indicus*), *vāl* (*Dolichos Lablab*), *chola* (*Vigna Catiang*), *kodra* (*Paspalum scrobiculatum*), *nāgli* (*Eleusine coracana*), *bāvto* (*Panicum frumentaceum*), *banti* (*Panicum spicatum*), *vatana* (*Pisum sativum*), *mag* (*Phaseolus Mungo*), castor-oil (*Ricinus communis*), *til* (*Sesamum indicum*), rapeseed (*Brassica campestris*), poppy (*Papaver somniferum*), cotton (*Gossypium herbaceum*), *san*-hemp (*Crotalaria juncea*), tobacco (*Nicotiana Tabacum*), sugar-cane (*Saccharum officinarum*), maize (*Zea Mays*), and *kasumbo* (*Carthamus tinctorius*).

Rice is generally manured with from five to ten cartloads of cattle-dung per *bīgha*[1]. When available, tank mud is used as manure at the rate of ten to fifteen cartloads per *bīgha*. With this treatment, it is calculated that from the best rice soils a return of 12 cwt. per acre may be expected. The crop is sown in June and July, and harvested in November.

Bājra, which is the staple food of the people, is generally sown as a mixed crop, except in Amreli. The land is manured either every

[1] Seven *bīghas* are equal to 4 acres.

year, or every alternate year, with farm-yard manure, at the rate of five or six cartloads per *bīgha*. The average yield per acre is from 5 to 9 cwt. It is sown in June and July, and harvesting begins in October.

For the growth of *jowār*, another staple food, five to eight cartloads of cattle manure are applied to each *bīgha*, and the yield varies from 4 to 9 cwt. per acre. It is usually sown in July and harvested from November.

In Navsāri wheat is grown without irrigation, while in Baroda, Kadi, and Amreli irrigation is necessary. In Amreli farm-yard manure is directly applied to the land set apart for wheat, but in other parts manure is used only for the *kharīf* crops sown before the wheat. Of this grain there are about five kinds, and the yield varies from 4 to 11 cwt. per acre. It is sown in October and November, and reaped in March.

Gram is usually sown after the rice has been harvested, and gives an out-turn of from 7 to 11 cwt. per acre. It is sown in November and harvested in March.

Tuver is generally grown in *gorāt* soil, the average yield being about 5 cwt. per acre. It is sown in June and July, and harvesting begins in January.

The best kind of rapeseed is grown in Kadi, on land which has been left fallow for four months. It is a crop which does not require any watering, and gives a yield of from 400 to 600 lb. per acre. It is sown in November and reaped in March.

It is a general rule when cotton is grown on black soil that the field remains fallow for one year, so that every year in cotton-producing tracts half the cultivable land remains untilled. It is generally sown mixed with rice in Baroda, and after the latter has been harvested the cotton grows rapidly. No manure is required, and the yield is from 4 to 6 cwt. per acre. *Rojī* or indigenous cotton is also grown on *gorāt* soil, and in this case farm-yard manure is applied. It is sown in June and July, and picking takes place in February and March, sometimes as early as December, and sometimes as late as April, according to the rainfall.

In the growth of sugar-cane a rotation is always observed. Its production so impoverishes the soil that it is not planted again in the same field for at least four or five years. In the Baroda *prānt san*-hemp or *jowār* is sown as a green manure in the monsoon, and in winter the fields are ploughed and prepared for sugar-cane. In Navsāri and Amreli the method followed is much the same, though the green crops previously sown are different. The juice of the cane is turned into molasses, a product widely exported to all parts of Gujarāt. In Navsāri the canes are cut in November or December after a year's growth.

Tobacco is a staple produce of Petlād and the vicinity. It is grown in *gorāt* soil and requires frequent irrigation, as well as from twelve to fifteen cartloads of farm-yard manure per *bīgha*. In Petlād the crop can be grown continuously on the same field for some years; and then an interval of two years, during which rice or *bājra* is planted, must elapse before tobacco can again be sown. The yield is from 7 to 10 cwt. per acre. It is sown in nurseries in June, transplanted in about a couple of months, and cut in February or March.

Poppy is grown in Kadi. Land intended for this crop is generally left fallow for about four months and ploughed several times before the seed is sown. In some places, however, it is usual to take a crop of *bājra* before utilizing the land for poppy. Manure is applied at the rate of twelve to fifteen cartloads per *bīgha* every third year, and irrigation is necessary. The average yield is estimated at 12 lb. of crude opium per acre; but the out-turn is always a matter of uncertainty, as this crop is easily influenced by changes of weather. Poppy is sown in October or November, and the collection of the juice takes place in February and March.

During the rainy season various species of *Cucurbitaceae*, *suran* or elephant-foot, sweet potatoes, &c., are grown; but most garden crops mature in the cold season or early summer. Potatoes are planted in small patches near the large towns. They require manure in the form of cattle-dung, oilcake, and night-soil, and also irrigation. *Brinjāls* and chillies are cultivated wherever irrigation is available, the *brinjāls* of Kāthor being especially famous. Onions are abundant, a white variety being largely cultivated in the Amreli *prānt* at Kodinār. Garlic and radishes are plentiful everywhere. Ginger is largely grown in Baroda and Navsāri. For this crop it is found that bundles of rotten hemp form an excellent manure. Carrots are cultivated everywhere, and in some parts, chiefly in Amreli, are used exclusively for fodder. Various native vegetables are grown in abundance, and of late years tomatoes have been introduced. Among the chief fruits are the mango, plantain, pomegranate, pummelo, guava, pineapple, lime, custard-apple, fig, and melon.

A table attached to this article (p. 77) gives statistics of cultivation for a series of years. In 1904–5 the total cultivated area was 3,751 square miles, of which cotton occupied 24 per cent., and *bājra* and *jowār* about 20 per cent. each.

A State Agricultural department has been established, under a Director, to give assistance to the cultivators in all possible ways. A large farm, with a school attached, has been founded at Baroda, where assistant masters of vernacular schools are trained as agricultural teachers in village schools, a few officials are instructed in the principles of entomological research, and agriculture is taught to ordinary students.

At Songarh also a school has been opened, and the farm attached to it is entirely worked by the students. A class for sericulture was opened in 1904. The department also concerns itself with cattle-breeding, and the establishment of seed and manure dépôts. Travelling instructors have been appointed who lecture to cultivators, and endeavour to introduce new crops and improved methods and implements. The most successful innovation so far has been the introduction of the potato, but selected seed of crops already grown is also in demand. A State entomologist was appointed in 1905.

Experiments in agriculture are carried on at the Baroda and Songarh model farms, and occasionally in the fields of intelligent cultivators. At the Baroda farm attention is chiefly paid to the improved growth of the principal crops of the vicinity, and also to the curing of tobacco leaf, while at Songarh *jowār*, rice, and cotton are mostly experimented on. The cultivators take much interest in these farms, and have begun to imitate some of the improved processes followed there.

Advances are regularly made for agricultural improvements, especially the construction of wells. In ordinary years from 1 to 2 lakhs are provided for this purpose, the loans being repayable in thirty years, and no interest being charged for advances of less than Rs. 500. Advances are also made, at easy rates, for the purchase of seed and bullocks, amounting to about 2½ lakhs in 1902–3 and 1903–4. Owing to the unfavourable season larger amounts were advanced in 1904–5, the total being 4·8 lakhs.

Agricultural banks have been opened at Songarh (1899) and Harij (1900), which are practically financed and managed by the State. Advances in cash or kind are made to cultivators at the rate of 6¼ per cent. interest, and the State profits are limited to 3 per cent., the surplus being credited to a reserve or distributed as a bonus. The banks also buy and sell produce and agricultural requisites. About Rs. 18,000 was advanced in 1904–5. An Act to regulate the formation of co-operative credit societies has recently been passed.

The indebtedness of the cultivators is considerable, and few men with average holdings do not owe something to the money-lender. Money is borrowed by the poorer ryots not merely for marriage and other festivals, but also for the purchase of grain and manure. The ordinary rate of interest varies from 9 to 15 per cent. As in British India, the cultivators still deal largely with money-lenders, instead of applying for loans from the State. Advances are regularly given to cultivators of poppy.

The horses and ponies of the country are very indifferent. The best breeds are to be found in Kāthiāwār. Two breeds of cattle may be mentioned, the Desi and the Kānkreji. The former are found in all parts of the Baroda and Navsāri *prānts*. They are of small size, the

cows give little milk, and the bullocks, though fast, are unfit for heavy draught. The Kānkreji breed is well-known throughout Gujarāt, and is much esteemed for the size of the bullocks. These large and powerful animals are suited for ploughing and other heavy work. Good bullocks of this breed sometimes sell for Rs. 200 to Rs. 250 a pair. In the Amreli *prānt* the Gir cattle are the most celebrated. They are smaller than the Kānkreji kind, but the milch cows give a rich and abundant supply of milk. Buffaloes, goats, and sheep are kept everywhere, but there is nothing special to be noted about them. An attempt has been made to improve the breed of buffaloes.

In many villages pasture land is set apart for cattle. Bullocks employed in heavy work are fed on hay, millet stalks, and sometimes gram. Cotton-seed is given to buffaloes to increase the supply of milk. Grass is generally abundant in all parts of the State; but in the recent famines it failed, and many cattle were lost. Fairs are held in a few places for the sale of cattle. The most important is the weekly fair at Baroda.

The two most prominent cattle epidemics are rinderpest and foot-and-mouth disease. The former proves fatal in nearly all cases, while the latter is not so dangerous. There are two veterinary dispensaries, at Baroda city and Mehsāna. The surgeons in charge are required to tour when cattle-disease breaks out, and give their advice and assistance. In 1904–5 the total number of animals treated in the dispensaries was 2,049.

With the exception of the black cotton soil, all the cultivable lands can be irrigated. The chief crops which require irrigation are tobacco, sugar-cane, poppy, and vegetables. Even the black cotton soil repays irrigation if water can be had at moderate depths.

The irrigation works constructed by the State include a number of tanks, with small distributing channels. Some of the larger works have not been successful, owing to deficient rainfall or the need for further storage reservoirs and other subsidiary works. The most important is a reservoir at Kadarpur in the Kadi *prānt*, which cost 3·8 lakhs, and will irrigate about 1,500 acres. The largest project is the Orsang weir in the Sankheda *tāluka*, which supplies a canal 6 miles long, and is designed to irrigate 20,000 acres. It has cost 5·2 lakhs up to the present, and the completed works will cost about 20 lakhs. Indigenous irrigation is chiefly carried on by means of wells, as very few tanks hold a considerable supply of water after the close of the cold season. The country is not wanting in streams; but most of them either run dry in the summer months, or fall so low that water cannot be conveyed by canals to the land. The usual water-lift is a large leathern bag containing about 16 gallons of water, which is drawn up by a pair of bullocks moving down an incline. Two men are required, one to drive

the bullocks, and the other to empty the bag when it has arrived at the top of the well. The Persian wheel is also occasionally used. Where water is near the surface, it is raised in a *supde* or *charaidu*. The former is a rectangular vessel with a rope on each side, worked by two men, who simply scoop the water up. The *charaidu* is a vessel with its length greater than its breadth, and having one end broader than the other. It is fixed on a pivot, and the broad end is lowered into the water and then raised, so that the water flows down. The average cost of a masonry well varies from Rs. 200 to Rs. 2,000, while that of an unbricked well varies from Rs. 10 to Rs. 35, according to the depth of spring-level. The total irrigated area is estimated at 184,283 acres. In addition to the land revenue, a cess is levied on irrigation. This takes different forms. In some tracts the cess is levied at varying rates according to the depth of subsoil water. In others all land round a well is charged, while sometimes the rate is paid on the well itself as long as it is used for irrigation. The nominal demand is about 2·7 lakhs, but scarcely half this sum is recovered.

Rents, wages, and prices.

The greater part of the State is held on *ryotwāri* tenure, and the payments made by the cultivators are thus revenue rather than rent. Holders of large areas, however, being unable or unwilling to cultivate the whole of their land themselves, sublet to others at the highest rates they can obtain. In prosperous years the rents thus paid are sometimes double or treble the State assessment on the land. Persons holding on the *narva*, *bhāgdār*, or *bhārkhali* tenures, described below under Land Revenue (p. 64), also collect rent from the actual cultivators. In all these cases rent is sometimes paid in kind, at the rate of one-third or one-half of the crop grown.

Among skilled labourers the carpenter earns the highest wages. At Baroda his daily pay varies from 10 annas to a rupee or more, while elsewhere he receives from 8 to 12 annas. A blacksmith gets from 10 to 13 annas a day at Baroda, and 6 to 9 annas in other parts of the State. A mason can earn daily at Baroda from 10 to 14 annas, or from 8 to 12 annas outside the city. The rates for other classes of skilled labour vary from 4 to 6 annas. The wages of agricultural labour are fairly uniform throughout the State, varying from 3 to 4 annas a day. Labourers who work as porters earn similar amounts, but at Baroda and other important places which have railway stations their earnings often exceed 8 annas. The wages of other labourers vary from 2 to 3 annas a day.

Payment of wages in kind still prevails, especially in villages. Agricultural labourers who are permanent servants are provided by their masters with food, clothing, &c., and a small annual cash payment. Casual labour, at the time of weeding and harvest, is in some places

remunerated by cooked food once a day in addition to a small cash payment. Again, at marriages or on other occasions villagers often secure the services of artisans and labourers in return for their food and a small money allowance.

Statistics of prices for a series of years are not available. There is little variation in different parts of the State. The following table gives average prices for the whole State, in seers per rupee:—

	Wheat.	Rice.	*Bājra.*	*Jowār.*
1902-3 .	11	9	16	18
1904-5 .	12	9	14	16

As far as material condition is concerned, the people of the *rāsti* (peaceful and populous) *mahāls* of Navsāri stand foremost. There are many well-to-do Pārsīs in this tract. Baroda comes next, while Kadi shows a little inferiority. As usual the Amreli *prānt*, and especially Okhāmandal, is the most backward. A middle-class clerk has a comfortable house, with decent furniture. His food is generally rice, *tuver*, wheat, and *bājra*, and he also partakes of milk and vegetables. His clothing, too, is good. The cultivators are not so well off. Their houses, even though sometimes large, are very scantily furnished and their food is poor. Their dress too is indifferent, consisting generally of *angarkhās* and *badans* (vests) of a coarse cloth called *jota*. The landless day-labourers are the worst off. Their usual food is *kodra* and *jowār*, their dress is ragged, and their abodes are poor.

Forests.

Navsāri *prānt* contains the largest forest tract in the State. Smaller areas exist in Baroda and Amreli. In 1905 the total area 'reserved' was 680 square miles, in addition to which there are considerable stretches of grass land and scrub jungle not yet surveyed. All the forests may be classed as deciduous and mixed. The most important species of trees are *sāg* (*Tectona grandis*), *shīsham* (*Dalbergia Sissoo*), *tanach* (*Ougeinia dalbergioides*), *khair* (*Acacia Catechu*), *bia* (*Pterocarpus Marsupium*), *sadad* (*Terminalia tomentosa*), *haladvan* (*Adina cordifolia*), *kalam* (*Stephegyne parvifolia*), *kagar* (*Acacia ferruginea*), *kati* (*Acacia modesta*), *dhaman* (*Grewia tiliaefolia*), *temru* (*Diospyros melanoxylon*), *bandaro* (*Lagerstroemia lanceolata*), *apta* (*Bauhinia racemosa*), *behedo* (*Terminalia belerica*), *kagdoli* (*Sterculia urens*), *babūl* (*Acacia arabica*), and bamboo (*Bambusa arundinacea*).

Systematic management of the forests commenced in 1877, but the early administration was not successful. More satisfactory results have been obtained since 1891; and the department is now superintended by a Pārsī Conservator trained at Cooper's Hill, who has under him an assistant, a working-plan officer, 7 rangers, 7 sub-rangers, 202 guards,

and 15 dépôt keepers. The forests are administered under an Act passed in 1891, and have been completely demarcated and settled. Working-plans have been prepared for a large area, and others are being drawn up. The unreserved forests are managed by revenue officials, but the price of certain kinds of trees is credited to the Forest department. Up to 1901 no special steps had been taken for the prevention of forest fires; and though regulations are now in force, little has been done beyond clearing the lines of demarcation and the main forest roads. Artificial reproduction is being tried in a few places; and along the sea-coast at Umrath, in the Navsāri *prānt*, various trees have been planted to check the spread of sand-dunes inland.

'Major' forest produce in areas outside the Reserves is sold by contract, while 'minor' forest products, such as lac, gum, resin, colouring bark, honey, wax, *mahuā* flowers, &c., are collected by lessees. At the several dépôts which have been established permits are issued at fixed rates for the extraction of dry fuel, grass, reeds, bamboos, and other 'minor' produce which is not leased. Grazing is permitted in most of the Reserves, and fees are realized by levying certain rates per head of cattle grazed.

Under the rules at present in force every family in forest tracts is entitled to receive annually inferior timber worth Rs. 5 for repairs, and also timber worth Rs. 20 every ten years for reconstruction of huts. The villagers are also allowed fuel, grass, leaves, and thatching materials for their bona fide use, and minor produce for their own consumption, nothing being granted for sale or barter. In return for these concessions, the villagers are bound to help the subordinate officials in protecting the forests. Owing to the reckless damage done to the forests in former days, the value of the free grants has been reduced from about Rs. 25,000 to Rs. 8,000.

In the famine of 1899–1900, when there was no grass available in nearly the whole of Gujarāt and Kāthiāwār, the Songarh and Vyāra Reserves were freely thrown open, and enormous quantities of fodder were supplied to the Baroda and Kadi *prānts*, as well as to Kāthiāwār. In addition to this, about 55,000 cattle were sent from all parts of the State, and even from portions of Rājputāna, to these Reserves for grazing purposes. Similar assistance was given in the bad seasons which followed.

The average revenue realized from the forests during the decade ending 1890 was Rs. 70,200, while the expenditure was Rs. 29,500, giving an average surplus of Rs. 40,700. During the next ten years the revenue averaged Rs. 93,400, and the expenditure Rs. 59,600, the surplus decreasing to Rs. 33,800. In 1904–5 the income was 1·2 lakhs, the chief items being produce of clearing and improvement fellings

(Rs. 33,400), and bamboos (Rs. 32,100), while the expenditure was Rs. 64,000.

Rich magnetic iron-sand is brought down in large quantities by the Tāpti when in flood, and the alluvium deposited on the bank of the river is full of it. The ore seems to have been worked to some extent formerly, but the introduction of cheap iron from Europe has destroyed the industry. The establishment of smelting works in the Songarh *tāluka* has been considered. Traces of gold have been found in the river-beds.

Mines and minerals.

Good sandstone is quarried at Songir on the left bank of the Hiran river, in the Sankheda *tāluka*. The work is carried on by a private company, which pays 2 annas for every large and 1 anna for every small hand-mill stone removed from the quarry, and 12 annas for each cartload of building material. Other kinds of stone are common, but are not worked. Granite of a very handsome variety is found at Virpur in the Kadi *prānt*, and at Bhulwan and Bodeli in the Baroda *prānt*. Crystalline limestone of many colours occurs at Motipura, Harikua, and Wadeli, in the same *prānt*. The green marble of Motipura, when cut and polished, has been described, on competent authority, as the most beautiful marble in India. In Amreli there are practically unlimited supplies of common building stone, such as basalt and miliolite, some of the latter being equal in quality to the best stone obtained in the famed Porbandar quarries.

As in other parts of Gujarāt, the hand-loom weavers are generally Dheds and Musalmāns, though Khattris, Tais, and Vanjhas also practise the same handicraft. Coarse cotton cloth known as *doti*, *khadi*, or *chophal*, is woven in all parts, the products of the Amreli *prānt* being perhaps the best. They are chiefly disposed of locally, as the erection of steam weaving-mills has almost destroyed the export trade in such material. Efforts are being made to introduce the use of looms of improved patterns. The Khattris of Baroda city turn out a rough woollen cloth which is often used for blankets. In the Kadi *prānt* a large number of Musalmān and Hindu women spin cotton thread, which is afterwards woven by Dheds. A more valuable industry is carried on at Pātan, where weavers manufacture *mashrū*, which is exported to Ahmadābād and other places. Silk is also brought to Pātan from Ahmadābād and Bombay, and there woven into *gajis*, *pītāmbars*, and the highly appreciated *patolas*. The sacred threads worn by Pārsīs are largely made at Navsāri by women of the priestly class, and exported to Bombay.

Arts and manufactures.

At Baroda embroidery with gold and silver thread is undertaken by a few artisans, and the work in both pattern and execution is of a superior description. The Kharadis of Pātan also turn out very good embroidery, while more simple work is prepared at Navsāri.

Carpets are made at the Baroda Central jail, and are purchased locally or exported to Ahmadābād, Bombay, and Poona.

There is nothing out of the common in the jewellery made in the State. Goldsmiths are found in every town, and in the marriage season their business thrives greatly. They manufacture ornaments of gold or silver, pearls being freely used in the case of gold ornaments.

The village blacksmith makes and repairs rude agricultural implements, and the wandering Pomalas visit every village to make native weights and the minor cooking utensils. At Atarsumba, in the Kadi *prānt*, knives and frying-pans of good workmanship are produced, and a sword-making industry on a small scale exists at Dehgām in the same division. At Pātan good betel-nut cutters are prepared, which find a ready sale through all parts of Gujarāt. In the Baroda *prānt*, at Sojitrā, Vāso, and Petlād, locks are manufactured.

Brass and copper pots for the daily use of the people are manufactured throughout the State, but there is little else worthy of notice. Dabhoi is well-known for the elegance and finish of the articles turned out, and a similar remark may be made of the Kadi brass and copper work. Visnagar also is famous for the excellence of its brass-ware, much of which is exported to Ahmadābād and Kāthiāwār.

Earthen jars for holding water or for storing grain, pipe-bowls, and clay toys are manufactured in great quantities for domestic use. The only ornamental pottery is made at Pātan, and this, though thin, light, and fragile, is often pretty. Here are manufactured toys, *hukkas*, water-goglets, pipe-bowls, water-coolers, and similar articles.

The art of sculpture has almost died out, but specimens of stone-carving still existing prove how great was once the excellence attained in this direction. Splendid examples may be seen at Dabhoi, Chāndod, Pātan, Sidhpur, Modhera, and many other places. Though the art has decayed enormously, the stone-carvers of the country have done excellent work in the new palace and other buildings at Baroda.

Ornamental wood-carving is chiefly confined to the Baroda and Kadi *prānts*. In the former excellent workmen reside at Dabhoi and Sankheda, and fine specimens of their art may be seen on the doors and verandas of the houses. Similar examples may be found at Vāso, Sojitrā, and Petlād. In the palace at Baroda there is much wood-carving which displays the same skill. In Kadi the best wood-carving is found at Pātan, Sidhpur, and Vadnagar. Good turning is also done at Pātan. Work in ivory is carried on to some extent at Baroda and Pātan.

A spinning and weaving-mill was established by the State at Baroda in 1883 at a cost of 6·4 lakhs. It contains nearly 15,000 spindles, 260 looms, and 40 gins. As signs of private enterprise had become apparent, the mill was sold for 5 lakhs in 1905 to a firm which has

floated a company to work it. Another mill is approaching completion, and others are projected. Ginning factories number 49 and cotton presses 4, while there is a single mill for each of the following industries: flour, dyeing, rice, oil, rope, and timber. Chocolate and matches are prepared in private factories. A sugar refinery was worked for some time without success, and was closed in 1894, but has recently been reopened. The total number of hands employed in the mills averaged about 730 during the last decade.

Commerce and trade.

The export trade of the State consists mainly of agricultural produce, such as cotton, grain, oilseeds, opium, tobacco, and raw sugar, Bombay being the chief market. Brass and copper vessels are exported from Visnagar and Kadi to Ahmadābād and Kāthiāwār, and the silk fabrics of Pātan are in wider demand. The imports consist of rice and other grains, refined sugar, metals, salt, piece-goods, spices, and kerosene oil. Goods are largely carried by rail, but there is some traffic by sea from the ports of Dwārka, Navsāri, and Bilimora. The harbours at the two last are being improved, and the formation of a harbour at Velam is under consideration.

As traders, petty shop-keepers, money-lenders, and bankers, the Baniās occupy a prominent position. Some of them also trade in cloth, but in this respect the Bhavsars (or Chhīpas) perhaps excel them. Brass and copper vessels are dealt in by the Kansāras. The Gandhis, who are in general Jains, trade in groceries, spices, articles of common use as drugs, and medicines prepared according to native fashion. The sale of vegetables is almost exclusively appropriated by the Kāchhis, while the Ghānchis are dealers in vegetable oil and kerosene. They also sell milk and *ghī*. The Bohrās have a special trade in iron vessels, such as frying-pans, buckets, &c., and in ropes of various kinds, while the petty Bohrās sell every kind of small article. Confectionery is dealt in by the Kandois, and the Tambolis sell betel-leaves, betel-nuts, and tobacco. Corn is sold by Baniās or Ghānchis. They purchase wholesale from the cultivators and then sell by retail in the markets. For molasses and sugar there are always special shops in large centres, but elsewhere as a general rule they are sold by the Gandhis.

Communications.

Most of the important towns in Baroda territory are either on the railway, or are connected by fair roads with stations at no very great distance. No railway passes through the Amreli *prānt*, but part of it lies within easy reach of the Bhāvnagar-Gondal-Junāgad-Porbandar Railway. One of the main lines from Bombay to Northern India passes through the State. The southern portion is the broad-gauge Bombay, Baroda, and Central India Railway, which crosses parts of the Navsāri and Baroda *prānts*.

From Ahmadābād in British territory this line is continued northwards by the metre-gauge Rājputāna-Mālwā Railway, passing through the Kadi *prānt*. The value to the State of this through route has been greatly increased by the efficient system of branch lines, most of which have been built by the Darbār, though worked by the Bombay, Baroda, and Central India Railway. Exceptions are the Tāpti Valley Railway, constructed by a company, which crosses portions of Navsāri from west to east, and the Baroda-Godhra chord line, which is part of the Bombay, Baroda, and Central India system. The Baroda *prānt* is well served by the Gaikwār's Dabhoi Railway (2½ feet gauge), which branches south to Chāndod, east to Bodeli, west to Miyāgām, and north-west to Vishwāmitri, the two last places being on the Bombay, Baroda, and Central India main line. Another branch passes south-west from Vishwāmitri to Masor Road. The total length of this system is 95 miles, and its cost to June, 1905, was 24·4 lakhs. The net earnings yielded 5 per cent. on the capital cost in 1904. The outlying *tāluka* of Petlād is crossed by the broad-gauge line from Anand to Cambay, 22 miles of which belong to the State, and yielded a profit of nearly 6 per cent. on the capital cost of 11·5 lakhs in 1904. In the Kadi *prānt* the Gaikwār's Mehsāna Railway radiates from Mehsāna north-west to Pātan, north-east to Kherālu, and south-west to Viramgām, with a total length of 93 miles. The capital cost of this system was 34·2 lakhs to June, 1905, and in 1904 the net profit was 6 per cent. Another metre-gauge line, 41 miles long, passes south-west from Vijāpur to Kalol on the Rājputāna-Malwā Railway, and then west to Kadi. It has cost more than 13 lakhs, and yielded a net profit of 3 per cent. in 1904.

The railways constructed by the Darbār have increased in length from 113 miles in 1891 to 185 in 1900 and 250 in 1905. The total capital cost has been 83 lakhs, giving an average of Rs. 33,000 per mile, and the net profit in 1904 was 5·3 per cent.. Cotton, grain, salt, oilseeds, and sugar are the principal commodities carried.

Good roads are not numerous in Baroda, owing to the great expense involved in construction and up-keep, and it is probably cheaper, and certainly more effective, to make narrow-gauge railways. The main roads are the Bombay-Ahmadābād or old trunk road, passing through the Gandevi, Navsāri, and Velāchha *tālukas*, and the Bārdoli-Surat road. Feeders connect important towns with railway stations, and a few miles of metalled road have been made in and around the capital. The up-keep of village roads has recently been entrusted to local boards.

The usual conveyance, as throughout Gujarāt, is a large wagon called *gadu*, the general pattern of which is everywhere the same. It is simply a long cart with a yoke in front, movable sides, and two wheels, usually

but not always tired. Another type, called a *damania*, is about half the length of the *gadu*, and is chiefly used for passengers, of whom it can convey four or five. It is usually drawn by two bullocks, but sometimes one only is used, and then the conveyance is called an *ekka*. Closed carriages, called *shigrams*, are used by wealthy people in large towns.

In connexion with the chief lines of traffic through the country, there are ferry-boats in many places in Baroda territory, some belonging to private owners, others to the State. The Mindhola river is crossed by four ferries, and the Ambikā by three. The Tāpti has eight, the Narbadā thirteen, the Mahī seven, the Vishwāmitri two, the Sābarmatī one, while in Okhāmandal there are ten.

Postal arrangements are entirely under British jurisdiction, the State forming part of the Bombay circle. Telegraph offices have been opened in all the large towns. The following statistics show the postal business in the State for the year 1904–5:—

Number of post offices	203
Number of letter-boxes	563
Number of miles of postal communication	967¼
Total number of postal articles delivered:—	
Letters	2,222,928
Post-cards	5,450,545
Packets (including unregistered newspapers)	235,738
Newspapers (registered as such in the Post Office)	338,225
Parcels	23,021
	Rs.
Value of stamps sold to the public	1,33,416
Value of money orders issued	16,26,490

Famine.

When there is scarcity of rain, the liability to famine varies in different parts according to the means of irrigation. Thus the *rāni mahāls* of Navsāri, with a stony and inferior soil, suffer as there is no possible way of irrigating the land. In the Kāhnam and Chorāsi tracts of Baroda wells can only be made with great difficulty, owing to the prevalence of black soil. Most of the Kadi *prānt* is suitable for the sinking of wells, the exceptions being portions of the Pātan and Sidhpur *tālukas*, the *peta mahāl* of Harij, and the neighbouring parts of the Kadi and Vadāvli *tālukas*, a part of the Kalol *tāluka*, the *peta mahāl* of Atarsumba, and the tract of country through which the Sābarmatī flows. In Amreli the country bordering on the Gir, the southern portion of the Dhāri *tāluka*, and the northern part of the Kodinār *tāluka* have few wells, while on the sandy and almost rainless promontory of Okhāmandal both soil and climate seem to combine to forbid cultivation.

The records of early famines are very scanty. There was certainly a great famine in 1791, and another in 1812–3, which prevailed most

severely in Kadi and Amreli. In 1819, 1834, 1838, 1877, and 1896 scarcity was experienced in portions of Baroda territory.

In consequence of the failure of the monsoon in 1899, the whole of Gujarāt fell a prey to the most terrible famine within the memory of living men. In June the usual showers of rain fell in all parts of the State, and the first agricultural operations were carried out. But three months followed without rain, and all hopes for the year disappeared in October; numbers of cattle died in that month, prices rose very high, and a period of disaster set in. The total rainfall varied from 13 to 34 per cent. of the normal in most parts of the State. Up to February, 1900, the Navsāri *prānt*, which had received about 34 per cent. of the normal rain, was considered free from famine; but an area of 6,245 square miles, with a population of 2,095,953, was severely affected from the beginning of the year.

The crops failed entirely in every part, and fodder was soon exhausted except in the forest tracts of the Navsāri *prānt*. The prevalence of famine in the Deccan, Rājputāna, Central India, and other parts added to the distress, for the prices of *bājra* and *jowār* doubled. Wheat rose by only 60 per cent., and the price of rice was in some measure kept down by large importations from Rangoon.

Extensive relief measures were undertaken by the State. Gratuitous relief was granted to those unable to work, 6·4 million units being aided at a cost of 2·6 lakhs. In addition, 4·6 million units were relieved by private charity at a cost of 2·5 lakhs. Cheap grain-shops were also opened and poorhouses established. Relief works were opened in many places, some of which were large protective irrigational works, such as the Kadarpur reservoir, the Orsang irrigation scheme, a new feeder for the Ajwa reservoir, tanks at Karāchia and Haripura, and drainage works at Sandesar and Karamsad. Roads and railway earthworks were also used to provide relief. The number of units on works was 19·2 millions, and the expenditure was 19·4 lakhs. Advances were freely made to agriculturists, amounting to 15·2 lakhs. The preservation of cattle was effected to some extent by giving free grazing wherever it was available, by the stoppage of the sale of grass on pasture lands, by the removal of duties on cattle-food, by the encouragement of the growth of fodder-crops, and by the direct supply of grass. The total quantity of grass so supplied amounted to 3,255 tons, and the cost was a lakh. Wells were sunk, specially in the Kadi division, at a total expenditure of 12·2 lakhs, and with the water so obtained fodder-crops were raised. The total expenditure during 1899–1900 on account of this great famine was 46 lakhs.

In the next three years the rainfall was unsatisfactory, and the whole country was infested with rats, which destroyed the crops wholesale. Considerable expenditure was required, amounting to 60 lakhs, of

which 26 lakhs was spent on works and 16 lakhs on advances. In 1904-5 scarcity was again felt, and relief measures were required at a cost of 10 lakhs, including advances of 7 lakhs.

As the registration of births and deaths has only recently been organized, statistics of the effect on population are not very reliable. During the famine year the number of deaths recorded was 131,261, while the average mortality of the previous five years was only 42,723. The deaths are attributed to the following causes: cholera, 21,986; fever, 73,294; dysentery and diarrhoea, 8,560; other causes, 27,421. According to the famine report for the year 1899-1900, the number of deaths due to famine causes alone, to the end of July, 1900, was 68,674.

Administration.

The State is in direct political relation with the Government of India, all communications passing through the Resident.

The administration is carried on by an executive council, subject to the control of the Mahārājā, who is assisted by a Dīwān and other officers. A number of departments have been formed, which are presided over by officials corresponding to those in British India, the principal heads of departments being members of the council. The revenue, financial, and settlement departments are at present controlled by Mr. R. C. Dutt, a retired Indian Civilian. Other departments deal with public works, medical, education, police and jails, judicial, military, records, and palace.

The State is divided into four *prānts*, corresponding to the Districts of British territory, and each *prānt* is subdivided into *mahāls* or *tālukas*, which number thirty-three, besides a few *peta mahāls* or sub-*tālukas*.

A *Sūbah* or Collector is in charge of each *prānt*, with an Assistant called the *naib-sūbah*. A *vahivātdār* or *tahsīldār* is in charge of each *tāluka*. Corresponding to the Commissioner in British India is a *Sar-sūbah*, who supervises the work of the *Sūbahs*, and is subordinate to the Revenue Minister. For some years attempts have been made to restore village autonomy, and since 1902 a *panchāyat* has been formally constituted for each village with a population exceeding 1,000, smaller hamlets being grouped together. The number of members varies from five to nine, half being appointed by the district officials and half selected. The *pātel* or headman is president, and the accountant and schoolmaster are members *ex officio*. These bodies are in charge of various details connected with the administration, and form part of the scheme for local self-government, which is described below.

Before the administration of the present Mahārājā there were few published codes in force, and these dealt chiefly with civil and criminal procedure, stamps, and registration. In 1883 a law committee was constituted, consisting of the Naib Dīwān and the three Judges of

the High Court. The committee was replaced in 1904 by a legislative department, under a Legal Remembrancer. Bills are published in the official *Gazette*, and after consideration of the criticisms made by the public and officers of the State become law under the orders of the Mahārājā. The chief measures passed since 1884 are: Acts dealing with Police (1884 and 1898), Registration (1885 and 1902), Excise (1886 and 1900), Stamps (1889 and 1904), Small Cause Courts (1890), Municipalities (1892), Law relating to Possession (1895 and 1897), Court Fees (1896 and 1904), Civil Procedure (1896, 1902, and 1904), Easements (1896), Limitation (1896 and 1903), Penal Code (1896 and 1904), Criminal Procedure (1896 and 1904), Interest (1898), Inspection of Boilers (1898), Contracts (1898), Guardians and Wards (1898), Lunatic Asylums (1899), Arms (1900), Transfer of Property (1901 and 1902), Hindu Widow Marriages (1902), Opium (1902), Village Munsifs (1902), Primary Education (1904), Infant Marriage Prevention (1904), Local Boards (1904–5), Co-operative Credit Societies (1904–5), Religious Endowments (1904–5), Charitable Estates (1904–5), and Customs (1904–5).

Legislation and justice.

Till recently the subordinate revenue officials exercised magisterial powers, resembling those of a magistrate of the second or third class in British India. Since 1904, however, the *vahivātdārs* have been relieved of criminal work in almost every *tāluka*, and cases are now tried by the Munsifs or subordinate civil officers. *Naib-sūbahs* or *Sūbahs* have first-class powers, and the latter can transfer cases from one subordinate court to another.

The lowest civil courts of first instance are those of the *mahāl* Munsifs, who can usually hear suits up to Rs. 7,000, and Small Cause suits up to Rs. 100 when sitting alone, and up to Rs. 300 when forming a bench with another Joint Munsif or a *panchāyat*. A few Village Munsifs have also been appointed. The Munsifs have criminal jurisdiction as magistrates of the first class.

The *prānt* Judges try original civil suits up to any amount, hear appeals from the Munsifs' decisions, and try Small Cause suits up to Rs. 750 when alone, and up to Rs. 2,250 when forming a bench with another Judge or with a *panchāyat*. In criminal cases they can sentence to imprisonment for life, subject to the sanction of the High Court, and to death, subject to the sanction of the Mahārājā. In certain classes of criminal cases the trial is conducted with the aid of assessors, and the adoption of a jury system is under consideration. A separate *prānt* Judge was appointed for Baroda city in 1905.

The chief tribunal is called the *Varishth* or High Court, and sits at Baroda. It possesses jurisdiction over the whole of the State, and hears all final appeals in civil and criminal cases. The Judges of this

court, who are three in number, besides the Chief Justice, have also extraordinary powers to try an original case. Sentences of death, however, are subject to confirmation by the Mahārājā, who can also modify any order passed by the court.

A special court, for the trial of civil and criminal cases affecting certain privileged persons, such as *sardārs* and *darakdārs*, sits at Baroda, and is known as the Sardārs' Court.

Minor offences with regard to sanitation, petty quarrels, &c., are disposed of by the village *pātels*, who can fine up to Rs. 5, and inflict 48 hours' imprisonment in the village lock-up.

Cases of theft and robbery are more frequent than any others, and offences against the person rank next, although murders and other cases of grievous hurt are not prevalent. Offences against public tranquillity are comparatively rare. The following table gives statistics of crime and litigation for a series of years :—

CRIMINAL AND CIVIL JUSTICE

	Average for ten years ending 1890.	Average for ten years ending 1900.	1901.	1904-5.
Criminal.				
Number of persons tried	21,404	30,816	22,680	22,295
Civil.				
Suits for money and movable property	14,912	20,596	13,450	11,904
Title and other suits	809	1,903	1,341	1,200
Rent suits	188	365	736	501
Total	15,909	22,864	15,527	13,605

A Registration department was formed in 1885. In the decade ending 1900 the number of offices was 48, and the average number of documents registered was 15,945. In 1904-5 there were 49 offices, and 20,641 documents were registered.

The department of finance and accounts is usually controlled by an Accountant-General, and is modelled on the system in force in British India. In addition to the usual detailed examination of accounts at the head office, the officials of the inspection branch tour and examine the working of all disbursing offices, and check cash balances and stock.

Finance.

The main items of revenue in the Baroda State are land revenue, tribute from other Native States in Gujarāt and Kāthiāwār, opium, excise, stamps, and railways. The main items of expenditure are the palace, civil establishments, army, public works, police, and education.

The following table shows the revenue and expenditure for a series of years, in thousands of rupees :—

STATE REVENUE AND EXPENDITURE

	Average for ten years ending 1890.	Average for ten years ending 1900.	1901.	1904-5.
Revenue.				
Land revenue	1,01,26	97,09	87,69	58,03
Stamps	3,02	5,81	5,93	4,12
Customs (land, sea, and town duties)	10,32	7,60	6,71	5,36
Miscellaneous taxes	3,43	2,66	1,57	1,61
Forests	63	1,08	76	1,12
Registration	39	51	51	64
Other sources (chiefly tribute, excise, railways, opium, and interest)	40,38	50,11	33,44	42,93
Total revenue	1,59,43	1,64,86	1,36,61	1,13,81
Expenditure.				
Collection of land revenue, &c.	19,38	28,68	27,11	21,33
Huzūr office establishment	5,04	5,13	5,24	4,96
Judicial establishment	3,20	3,82	4,00	3,10
Police	8,51	7,74	7,86	7,32
Education	2,73	7,95	8,07	6,74
Medical	1,59	2,07	2,18	1,64
Minor civil departments	7,22	7,74	8,19	15,92
Pensions, &c.	9,97	10,60	8,77	7,33
Public works (including irrigation and famine relief)	18,25	21,88	34,20	16,29
Other charges (chiefly palace and military)	75,12	74,59	73,62	61,23
Total expenditure	1,51,01	1,70,20	1,79,24	1,45,86

The disastrous famine year and its successor account for the diminished land revenue in 1901, and the increase of expenditure, due chiefly to protective relief works, in the same year. The large decrease in land revenue in 1904-5 is due to remissions and suspensions owing to scarcity.

The tributes from feudatory chiefs in Kāthiāwār, Rewā Kāntha, and Mahī Kāntha are chiefly collected by the British Government and are paid through the Resident. In 1904-5 they amounted to 5·9 lakhs.

The earliest coin struck in the Baroda State was issued, nominally under the authority of Shāh Alam II, at the close of the eighteenth century. Subsequently the Darbār issued its own money. The silver coins were called *bābāshāhi* rupees, and the copper coins Baroda pice, and all were executed in the rudest manner, except the latest issue of the present Mahārājā. This currency did not, however, circulate in all parts. In Navsāri and Amreli British coin was used, while in Kadi *shikai* rupees were current till 1806, when *bābāshāhi* rupees were sub-

stituted. Great inconvenience was caused by fluctuations in exchange, and British currency was introduced everywhere in 1901. The only trace still left of the old currency is in the Baroda *prānt*, where Baroda pice are still in use.

Land revenue.

A large proportion of the land has been alienated. These alienations extend not only to portions of the *khālsa* or State villages, but also include whole villages, of which about 8 per cent. have been alienated. A general term applied to such lands is *bhārkhali*, the expression meaning those of which the produce is not brought into the State *khala* or 'grain-yard.' Prominent among the holders of such land are the Girāsiās, whose ancestors held estates under the Mughals, or rose to power subsequently. Some Girāsiās are entitled to cash payments only, while others hold land and receive allowances as well. Land which is exempted from assessment is called *nakari*, and includes *dharmādaya*, *devasthān*, and *pīrasthān*, or lands for the support of charitable institutions or to maintain religious establishments. *Chākaryat* lands are those granted in lieu of cash for services rendered to the State, and the occupants have no power to sell, mortgage, or otherwise dispose of them. *Pasaita* lands are free grants to the different orders of village servants in Gujarāt. There are also *ināmi* grants and alienations given as rewards for services, military or civil, and many less important classes of tenure. Since 1880 alienations have been more carefully supervised than was usual in the past.

The principal tenure in the *khālsa* area is *ryotwāri*, under which the State collects the revenue directly from each cultivator without the intervention of a third party. The land revenue is usually assessed in cash on the area of the land occupied, but in a small and backward tract it is still levied on the number of mattocks used. This tract is now confined to one corner of the State and is mostly forest land. The cultivators have full rights of sale and mortgage; but if a holding is sold in execution of a decree, sufficient land is reserved for the subsistence of the cultivator and his family.

Two tenures, which resemble to some extent the *zamīndāri* tenure of Northern India, are called *narvadāri* and *bhāgdāri*. The latter has practically disappeared. In the former a lump assessment is made on a whole village, on general considerations, and the *narvadārs* are left to make their own terms with the actual cultivators. As a rule, they set aside a portion of the village the produce of which meets the State demand. While nominally allowed to alienate their rights, they remain responsible for the full assessment. Under the *ankadabandi* and *ekankadi* tenures a lump sum is assessed on a whole village, and the cultivators are left to distribute the demand among themselves. The assessment is subject to revision in the case of the former, and is permanently fixed in the latter class.



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Under the Marāthās tracts of land were leased to farmers, who extorted as much as they could from the cultivators. In 1864 Khande Rao commenced a scheme for settlement resembling that in the adjacent parts of Bombay. He also substituted payments in cash for division of the produce, and established a State service for the collection of revenue. The system was hardly successful, as the survey was incorrect, and the assessment was largely guess-work, while the tendency to pitch it too high was increased by the temporary demand for Indian cotton during the American Civil War. About ten years later, Sir T. Mādhava Rao reduced the demand by 12 lakhs; and in 1883 a new survey and settlement were commenced under an officer of the Indian Civil Service. Operations were modelled on those followed in Bombay. The demand for a whole *tāluka* was fixed on consideration of the fiscal history of the tract, and was then distributed after careful classification of the land according to its capabilities. The total demand was still further reduced by 8 lakhs, and the assessment was fixed for a period of fifteen years. A number of taxes on agriculturists were at the same time abolished. In 1904 the revision of this settlement commenced, also under the control of an officer of the Indian Civil Service, and it has been decided to fix the term of assessment at thirty years.

Miscellaneous revenue.

Trade in opium is a monopoly of the State, and no cultivator is permitted to grow poppy without a licence. A special agency is maintained for supervising and regulating the growth of the plant, and the subsequent manufacture of opium. At present cultivation is confined to the Kadi *prānt*. Licences are issued by the *vahivātdārs* or the opium superintendent to cultivators, who send their applications through the village accountants. Opium is collected from the cultivators at fixed places from April to June, and they receive payment immediately, at a rate fixed beforehand, which was Rs. 6 per seer in 1904–5. A sufficient quantity is reserved for use in the State, and the balance is sent to Bombay for sale in China. The latter is packed in chests containing 140¼ lb. or half-chests of 70⅛ lb., and is subject to a transit duty at present amounting to Rs. 600 per chest, collected by the British Government at Ahmadābād. Retail sale within the State is effected by licensed vendors. In Navsāri and Amreli the contract for sale throughout the whole *prānt* is disposed of by auction, while in Baroda shops are let separately. In Kadi a selected licensee receives the contract. The area under poppy averaged 8,166 acres during the decade ending 1890, 6,223 acres during the following ten years, and was 6,973 acres in 1901 and 12,262 acres in 1904–5. The net revenue averaged 3·3 lakhs from 1881 to 1890, and 4·1 lakhs during the next decade. In 1904–5 sales within the State realized a net profit of 2·5 lakhs, and 800 chests were exported at a profit of 3·2 lakhs. Many causes affect the popularity of the cultiva-

tion. The poppy is a difficult plant to bring under culture. It requires constant care and attention, and all the processes connected with it entail much labour. Rapeseed, wheat, and other crops compete with poppy. The price to be offered by the State is notified before issuing licences, and the people make a choice according to the conditions of the season.

The manufacture of salt is carried on only in Amreli. The product is sold in this *prānt*, and cannot be exported to other parts of Baroda or to British India. Salt made at Kodinār is a State monopoly; but no restrictions are in force at Okhāmandal, except the levy of an export duty on salt exported to Zanzibar and other foreign ports. In the rest of the State salt may not be manufactured. In 1904–5 the State realized Rs. 573 from export duty, and Rs. 348 from the monopoly, while it spent Rs. 230 on the latter and Rs. 864 on preventive establishment.

The principal sources of excise revenue are the manufacture and sale of country liquors and toddy, *bhang*, *gānja*, and other intoxicating drugs, and fees for licences for the sale of imported foreign liquors. In Amreli the out-still system is in force, under which the rights to manufacture and sell liquor are sold together. In other *prānts* liquor is manufactured at a central distillery, still-head duty being levied at rates varying from 6 annas a gallon for liquor at 60° under proof, to Rs. 2–8 for liquor 15° under proof. Licences for retail vend are sold by auction. Toddy is sold in shops which are let singly or in groups of licensed vendors, and in addition a tree tax is levied. It is important only in Baroda and Navsāri. Licences for the sale of imported liquors are given at fixed annual rates, varying from Rs. 75 to Rs. 125. The excise revenue during the decade ending 1890 averaged 5·44 lakhs, and during the next ten years 8·5 lakhs. In 1901 the revenue was 5·8 lakhs, and in 1904–5, 6·8 lakhs. The chief heads of receipts in the last year were 5·8 lakhs from liquors and Rs. 93,000 from toddy. The incidence of receipts per head of the population was R. 0–1–9 in 1881, R. 0–5–5 in 1891, R. 0–4–8 in 1901, and R. 0–5–6 in 1904–5. The Marāthās, Kolīs, and labouring Hindus, the Pārsīs, and some of the Muhammadans consume country liquor; but as usual the greatest demand is in the capital and chief centres. In Navsāri there is a large consumption of toddy, because of the numerous palms that grow there, and the superior nature of the manufactured drink. *Bhang*, *gānja*, &c., are not used nearly so freely as liquor. The higher classes are as a rule strongly averse to the use of liquor, though some educated persons take a stimulant in case of illness. The wealthier part of the community, as for instance the Pārsīs, prefer imported spirits to the coarser country brands.

The Stamp department is conducted on methods analogous to those obtaining in British territory. Various kinds of stamps and stamped

paper are supplied to selected vendors, who sell by retail to the people, and obtain a commission from the State. The revenue derived from stamps during the decade ending 1890 averaged 3 lakhs, and during the next ten years 5·8 lakhs. In 1901 it was 5·9 lakhs, and in 1904–5, 4·1 lakhs.

Till recently a number of vexatious taxes were levied on professions and castes, forming 214 classes in 1905. They yielded only about Rs. 85,000, and have been replaced by an income tax, first levied, in part of the State, in 1901–2. This is assessed at about 1 per cent., incomes of less than Rs. 300 per annum being exempted. The revenue in 1904–5 was Rs. 99,000. An income of about a lakh is derived from rents paid for homestead land by non-agriculturists, licences to collect valuable shells, and taxes on pilgrims.

Important reforms have recently been made in the customs administration, which were formerly complicated and harassing to trade. In 1904 the frontier duties hitherto imposed in the Baroda and Kadi *prānts* on 28 articles were abolished, leaving 8 on the schedule, and a similar reduction was made in the duties levied in towns, while export duties were remitted, except in the case of cotton and *mahuā*. At the same time the assessment was simplified by levying it by weight, instead of *ad valorem*. A year later similar reforms were introduced in the Navsāri and Amreli *prānts*, and in addition octroi was completely abolished in several small towns. The customs revenue during the decade ending 1890 averaged 10·3 lakhs, and during the next decade 7·6 lakhs; in 1904–5 it amounted to 5·4 lakhs. In the last year the expenditure on establishment was Rs. 80,000.

Local and municipal.

A scheme for local self-government came into force in 1905, when a *tāluka* board was constituted in each *tāluka* and a District board in each *prānt*. Groups of villages and each municipality return a member to the *tāluka* board, half the members of which are thus elected, the other half being nominated by the State. Half the members of the District board are similarly elected by *tāluka* boards and large municipalities. Alienated villages are also represented on both District and *tāluka* boards. The *Sūbah* presides over the former, and the *naib-sūbah* over the latter. A local cess is levied at the rate of one anna in the rupee on land revenue, but has not yet been extended to the whole State. From the proceeds a quarter is set apart for famine and other unforeseen expenditure, and the balance is placed at the disposal of the boards, amounting to 2·8 lakhs in 1905–6. Further grants are made for public works, vaccination, and village schools, the total income being 4·5 lakhs. The boards' functions resemble those entrusted to similar institutions in British India, such as public works, schools, temporary dispensaries, vaccination, sanitation, and arboriculture.

In 1877 municipalities were established in all towns containing a population of 10,000 persons and over, excepting Dwārka, and grants were made by the State at the rate of 4 annas per head of population. The grants sufficed only for a limited attention to conservancy, lighting, watering, &c., and were subsequently raised to 8 annas per head for all towns where the population is more than 7,000, and 6 annas per head in other cases. Municipalities were subsequently established in twenty-two other towns with a population of less than 10,000. From 1899–1900 (famine year) the grants were reduced to 4 annas, except in Pātan. In 1905 separate sources of income were assigned to some municipalities. Thus Baroda city received a grant of 1·3 lakhs and the net receipts from octroi, while custom duties, tolls, local cess, and a proportion of the excise revenue raised in them were handed over to seven other towns, the ordinary grant being reduced or abolished. In 1905 there were altogether 35 municipal towns: Baroda city, with a population exceeding 100,000; 10 with more than 10,000 and less than 100,000; and 24 with less than 10,000. The total population within municipal limits was 412,626.

With the exception of Baroda city and seven other towns, the *Sūbah* appoints no less than half the members, who are from eight to sixteen in number, and hold office for three years. In making his nominations the *Sūbah* is expected to take into consideration the different castes of the inhabitants, and the nature of the trade carried on in the town. He can also appoint State servants, such as members of the medical and educational departments. In the more important towns, *naib-sūbahs* help in the administration, and in the *tāluka* towns the *vahivātdārs*. In 1905 a scheme was introduced by which half the members are elected in the seven towns referred to above. The principle of election has been introduced to a certain extent in other municipalities also.

The following table shows the expenditure of the municipalities, excluding Baroda city:—

	1889–90.	Average for the ten years 1891–1900.	1900–1.	1904–5.
	Rs.	Rs.	Rs.	Rs.
Establishment	Details not available	Details not available	15,687	12,504
Public works			10,271	13,224
Planting of trees			191	202
Conservancy			57,825	48,630
Watering roads			3,480	2,377
Lighting			13,496	13,582
Fire establishment			579	918
Tools and plant			776	1,378
Miscellaneous			1,226	4,736
Total	70,812	1,23,194	1,03,531	97,551

In Baroda city the expenditure was 3·4 lakhs in 1889–90 and 1900–1, and 2·4 lakhs in 1904–5.

The public works department, which came into existence in 1875, is under the control of the Chief Engineer, the administrative part of the work being conducted by a secretary in the public works department, who is of the rank of Executive Engineer. Five divisions have been formed for the *prānts* and Baroda city, at the head of each being an Executive Engineer with a qualified staff under him. There is a separate Executive Engineer for irrigation. It has also been found necessary to make a separate branch for landscape gardening, and to appoint at its head a European Garden Superintendent, who reports directly to the Chief Engineer.

Public works.

During the decade 1881–90 the expenditure averaged 16·7 lakhs, while in the next ten years it rose to 18·3 lakhs. In 1904–5 it amounted to 20·1 lakhs, including 2 lakhs for famine relief. These sums do not include expenditure on the railways, which were not constructed by the department.

The following are the principal works that have been carried out since the accession of the present Mahārājā: The Dufferin, Jamnābai, and Military Hospitals, and a Lunatic Asylum at Baroda city, and 4 hospitals and 25 dispensaries in the districts; a college, Anglo-vernacular school, and female training college at Baroda, a high school at Amreli, and about 50 other schools; public offices at Baroda, Navsāri, Amreli, and Mehsāna; a survey office and record office at Baroda; judicial courts and a Central jail at Baroda, and 4 District jails; a public park and museum at Baroda; cavalry and infantry lines, with officers' quarters at Baroda; the Ajwa reservoir and city drainage works for Baroda, and drainage and irrigation works in the districts; a lighthouse at Dwārka; roads from Baroda to Ajwa and Amālyāra, Petlād to Cambay, Sinor to Karjan, Pātan to Harij, Bilimora to Gandevi, Songarh to Surat, Amreli to Chital, Dwārka to Koranga, and many others of short lengths. In addition, the magnificent Lakshmī Vilās palace at Baroda, and a palace at Umrath, have been constructed departmentally.

The State army, consisting of the regular and irregular forces, is under the command of the Senāpati, who is assisted by the military secretary. The regular forces include artillery, cavalry, and infantry, whose total strength in 1904–5 was 4,775 officers and men. The artillery forms a light field battery, 93 strong. There are four cavalry regiments, with a total strength of 1,500 men, and four infantry regiments with 3,182, including staff officers and the band. The irregular forces are also divided into horse and foot, the former numbering 2,000 and the latter 1,806. The total cost in 1904–5 was 17·9 lakhs, of which 10·6

Army.

lakhs was spent on the regulars, 6·5 lakhs on the irregulars, and the balance on pensions. In addition, the State pays 3·7 lakhs annually to the British Government as commutation for the maintenance of the former Baroda Contingent, making a total military expenditure of 21·6 lakhs. A regiment of native infantry of the Indian Army garrisons Baroda, which is a cantonment in the Mhow division of the Western Command.

Police and jails.

Before 1860 the police administration was in the hands of the revenue farmers, who were permitted to exercise magisterial and police functions. The system was unsatisfactory, and consequently numerous changes and improvements were made; but the first thorough reform was introduced by Sir T. Mādhava Rao, who separated the work of the magistrates from that of the police.

The present organization of the regular police is as follows: At the head of the department is a Commissioner. Each *prānt* is under a district police officer, who is called police *naib-sūbah*, corresponding in rank with the District Superintendent, and has under him a varying number of inspectors. The inspectors are in charge of subdivisions, which consist of three or more *tālukas*. Each *tāluka* has a *faujdār* (chief constable). A *tāluka* is subdivided into *thānas* (outposts), each *thāna* containing a certain number of villages. Large and important *thānas* have *chaukīs* under them for a small group of villages. The *thānas* are under *naib-faujdārs*, and the *chaukīs* under *havildārs* or *jemadārs*. The sanctioned strength of the regular force in 1904–5 was 4,886, made up as follows: 60 officers, 4,622 subordinate officers and men, and 204 mounted police, besides 129 non-effectives. The actual strength was 4,660, and the total cost was 6·4 lakhs. The sanctioned strength allows one man of the regular police to every 2·9 square miles of country, and to every 690 inhabitants. The rural police are said to number about 10,000 men. These latter are, strictly speaking, subordinate to the village *panchāyats*, but in criminal cases must give assistance and report to the regular police.

The system of recruitment of the regular police is almost the same as in British territory. Recruits must be men of good character, with a height not less than 5 feet 5 inches, and circumference of chest not less than 31 inches. After enlistment each recruit is trained at the head-quarters of the division for at least six months, and is taught drill and the use of the rifle. Those who cannot read and write receive oral instruction in their duties, and manuals are provided containing the chief points of the Police Act and other regulations. In 1904–5 about 63 per cent. of the force could read and write. Educated men have not shown much desire to enter this department; but a change seems to be setting in, and at the present time there are even a few

graduates in the service. The pay of the force has recently been raised.

Except in the city of Baroda there is no special branch for detective service. To aid in the detection of crime, the system of taking finger-prints was introduced two years ago and is now being developed throughout the State. Police on the State railways are under the control of the Police Commissioner, except on the Dabhoi Railway, which is under the Superintendent of Railway Police, Bombay.

The number of cases dealt with by the police and the main results are shown below:—

	Average, 1891-1900.	1904-5.
Number of cases reported	5,807	4,263
" " decided in criminal courts . .	3,387	2,276
" " ending in acquittal or discharge .	1,311	631
" " " conviction . . .	2,076	1,532

The Jail department is under the Police Commissioner. The State contains a Central jail at Baroda, 4 District jails, a subordinate jail, and 39 lock-ups. The Central jail and three of the District jails are in charge of Civil Surgeons, while the others are supervised by *vahivātdārs* or subordinate officials. The average daily number of inmates was 1,511 in 1881, 2,324 in 1901 (a famine year), and 915 in 1904-5. The mortality usually ranges from 25 to 35 per thousand, but in 1901 rose to 84, owing to the effects of famine on the population. The chief industry pursued in the Baroda Central jail is weaving. All the clothing required for the prisoners themselves, and for the police, is prepared here. Excellent carpets are also made, as well as cane baskets, boxes, chairs, &c. The produce is sold under a contract, and is exported in large quantities. In 1904-5 the total receipts from convict labour amounted to Rs. 25,000. The annual average cost of maintaining a prisoner was Rs. 69 in 1881, Rs. 76 in 1891, Rs. 81 in 1901, and Rs. 73 in 1904-5, the total expenditure in the last year being Rs. 67,000.

Education.

Up to 1871 the State took no interest in schools and expended no money on education. The progress made since, which has raised education to a very high standard, is thus remarkable. Statistics will be found in a table at the end of this article (p. 78).

Indigenous schools are usually conducted by Brāhmans, the post of head master being hereditary. The fees are small, varying in the case of monthly payments from 1 anna to 4 annas. In other cases a small lump sum is given, or payment is made in grain. The ages of the boys attending these schools vary from 5 to 10 in towns, and from

7 to about 13 in villages. The subjects taught do not go beyond reading, writing, and elementary arithmetic, though formulae of a moral and intellectual nature are learnt by heart. No books are used, and the school-house is either the master's own property or he is allowed to use a *dharmsāla*. Many of these institutions have been replaced by State schools.

In 1871 five State schools were opened, two for Gujarātī, two for Marāthī, and one for English tuition. In 1875 a department of public instruction was established, and rapid extensions and developments then followed until the present system was established. The department, which is controlled by the Vidyādhikāri or Minister of Education, is divided into two branches, the Anglo-vernacular and the vernacular branch. The staff of the Baroda College and high school inspect the former, while the latter is supervised by an Inspector in each *prānt*, aided by eleven deputy-inspectors and a twelfth for Urdū and low-caste schools.

The Baroda College was founded in 1881, and recognized by the University of Bombay in the same year. It is fully equipped with chemical and physical laboratories, a botanical garden, an excellent library, and prepares students for the highest degrees in the faculty of Arts, the B.Sc., and also for the first LL.B. examination of the University. Close to the college building are large boarding-houses for the residence of students. In 1905–6 students from this college passed the following examinations: Previous 35, Intermediate 30, B.A. 19, B.Sc. 3, M.A. 1, and first LL.B. 13. A number of students have been sent at the State expense to continue their studies in England, America, and Japan.

Secondary schools are divided into high schools and Anglo-vernacular schools. Their number has risen from 10 with 809 pupils in 1881 to 17 with 1,978 pupils in 1891, 21 with 2,926 pupils in 1901, and 21 with 3,095 pupils in 1904–5. In the last year the State maintained 3 high schools and 14 Anglo-vernacular schools, and aided the other institutions. The total expenditure was 1·5 lakhs, and the receipts from fees were Rs. 32,000. The proportion of the male population of school-going age under secondary instruction in 1904–5 was 1·83 per cent.

In the vernacular schools education is imparted in Gujarātī, Marāthī, or Urdū, and in the best of the Marāthī and Gujarātī schools there are seven standards, with Sanskrit as an optional subject. These schools are provided in all towns and villages with a population exceeding 1,000, though even smaller places possess them. Great attention is paid in primary schools to subjects of practical use, such as letter-writing, book-keeping, history and geography of the State, hygiene, village accounts, &c. Moral instruction is also given, and physical education is imparted. In some schools manual training has also been

introduced. Village schools were first opened in 1891, and the village schoolmaster is now recognized as one of the permanent members of the *panchāyat*. The schools are opened in all villages where there are no regular schools, provided that at least sixteen pupils can be collected. The standard is lower than in regular schools, but in the upper classes boys learn village accounts, book-keeping, and a little surveying. In 1905 these schools were made over to local boards.

An experiment in compulsory education has been carried on in the Amreli *tāluka* since 1893. In 1904–5, 66 schools were specially provided in 50 villages, and these were attended by 5,879 pupils, or 11 per cent. of the total population. An Act was passed in 1904 to provide for the extension of this system to other *tālukas*. The age limit for compulsory attendance is 7 to 12 for boys and 7 to 10 for girls, but numerous exemptions are allowed.

The total number of vernacular schools rose from 180 with 17,465 pupils in 1881 to 503 with 50,979 pupils in 1891, 1,189 with 83,277 pupils in 1901, and 1,243 with 81,649 pupils in 1904–5. The latest figures include 496 State schools for boys, 94 for girls, and 653 village schools and other institutions. Nearly 40 per cent. of the villages in the State have schools, and 43 per cent. of boys of a school-going age are under instruction. The monthly pay of an assistant master ranges from Rs. 7 to Rs. 25, while a head master receives from Rs. 15 to Rs. 60.

In 1881 the number of girls' schools in the State was 8, with an average attendance of 554. In 1891 the number of schools was 39, and the average number on the rolls was 4,103. In 1901 the number of schools was 97, and, including girls educated in mixed schools, female pupils numbered 14,427. There were 94 girls' schools in 1904–5 with 8,086 pupils, while 5,027 girls were being educated in mixed schools, giving a total of 9 per cent. of the female population of a school-going age. In the small girls' schools, in addition to the ordinary literary subjects, needlework and singing are taught, and in the more advanced schools, embroidery, drawing, singing, and cooking. *Zanāna* classes have been in existence for some time. They are attended by grown-up women, who are taught reading, writing, arithmetic, and needlework, in convenient hours when they are free from domestic duties. In 1904–5 there were 140 students in these classes.

A training class for female teachers was opened in 1881, and has been developed into a female training college under the charge of a Lady Superintendent. The number of students on the rolls in 1904–5 was 26, of whom 7 completed their course and were employed by the department. A similar school for male teachers was opened in 1885 but abolished in 1898. It was reopened in 1905, in connexion with the technical school described below, and has 66 pupils.

In 1890 a technical school, called the Kala Bhavan, was established

in the city of Baroda, and has since been improved and extended. It now includes classes for art, architecture, mechanical and chemical technology, weaving, and watch-making. The number of pupils rose from 175 in 1901 to 364 in 1904–5, and only a small proportion of the candidates for admission to the engineering class can be accommodated. Industrial schools at Padra, Vadnagar, and Kāthor are in charge of the Principal of the Kala Bhavan. The total expenditure on these institutions in 1904–5 was Rs. 53,000.

Since 1886 schools where music is taught on scientific principles have been maintained in Baroda and other places. These are exceedingly popular, and contained 638 pupils in 1904–5. Music is also taught to girls in the training college and in the higher classes of the vernacular girls' schools.

In 1881 there were only 13 Muhammadan students in secondary schools, while primary schools contained 1,456. In 1891 there was one Muhammadan in the Baroda College, besides 32 in secondary and 5,123 in primary schools. In 1901 the number of Muhammadan pupils in the college was 3, in the secondary schools 69, and in the primary schools 7,639. A further rise took place in 1904–5, when 9,418 boys and 447 girls were attending schools. Muhammadan education has thus made rapid strides, though the number of those who desire higher instruction is small. Special Urdū schools, numbering 39, have greatly helped the community. The Mahārājā has recently founded handsome scholarships to assist Muhammadans in pursuing a university career.

Special schools are maintained for the jungle tribes and for the castes regarded as unclean. The former are taught reading and writing, and are also trained in carpentry and agriculture at Songarh. Less success has been obtained with the unclean castes, but in 1904–5 the number of pupils was 1,715, or 10 per cent. of the children of a school-going age, including 68 girls. Education in these schools is entirely free.

The total State expenditure on education amounted to 4·9 lakhs in 1891, to 8·2 lakhs in 1901, and to 6·7 lakhs in 1904–5, or about $5\frac{1}{2}$ annas per head of the population. A number of scholarships are also granted from the Mahārājā's privy purse at institutions in Bombay and Poona.

The Census of 1901 showed that out of every 1,000 of the population 87·7 could read and write, the proportion rising to 162·7 in the case of males, and being 7·6 for females. Among Pārsīs 60 per cent. were literate, and among Jains 36 per cent., while Musalmāns (9·4 per cent.) were rather more advanced than Hindus (8·5 per cent.). The Animists are the most backward community, with only 3·6 per cent.

Since 1881 several newspapers have been started, and at present there are five in existence. These papers contain information on local subjects and are useful to the people. The State has given much encouragement

to the publication of vernacular works, including many translations from English and Sanskrit books, and also treatises on history, music, games, cookery, &c.

Medical.

Before 1855 the practice of medicine was entirely in the hands of *vaids* and *hakīms*. They numbered about 50, and their most important duty was to attend on the Mahārājā, his relations, and his immediate followers, though they also practised among the townspeople. Native systems of medicine were followed, and the practitioners had no acquaintance with European science. In 1855 a hospital was opened in Baroda city, under the superintendence of the Residency Surgeon, but it was not until 1876 that a medical department was established. A European medical officer was called in to commence the work, and rapid progress was made. Many of the *vaids* and *hakīms* were pensioned, and their places were filled by properly qualified practitioners. The Sayāji Rao Military Hospital and the Jamnābai Civil Hospital were opened in the city in 1877. Civil hospitals were founded at the head-quarters of each *prānt*, and dispensaries at most of the *tāluka* head-quarters. A central medical store dépôt was also established, and a chemical analyist appointed. Afterwards a veterinary hospital was added. In 1886 the magnificent building now known as the Countess of Dufferin Hospital was erected to take the place of the old State hospital, which had become unsuitable.

Statistics of the progress made in providing for the medical needs of the people are shown below:—

	1881.	1891.	1901.	1904–5.
Number of hospitals and dispensaries	34	43	51	40
Daily average attendance of in-patients	212	207	492	248
Daily average attendance of out-patients	1,994	3,192	3,736	3,946
Number of operations	6,947	10,940	9,232	9,466
Expenditure on establishment Rs.	78,544	1,42,911	1,39,720	1,10,611
" medicines, &c. Rs.	96,358	62,833	79,016	50,786

A lunatic asylum was opened at Baroda city in 1898, with accommodation for 28 patients—16 males and 12 females. The number of lunatics treated in 1904–5 was 27, and the expenditure amounted to Rs. 2,785. Most of the cases of insanity are ascribed to the excessive use of liquor and to the smoking of *gānja*.

A vaccination department has been in existence for many years, and vaccination has been freely carried on among all classes of the people. In the city of Baroda both animal lymph and lymph taken from vaccinated children are used, but in other parts of the State human lymph is generally used, which is revived by bovine lymph from time to

time. In 1904–5 the staff consisted of 4 inspectors and 35 vaccinators, besides probationers and servants, and 60,872 persons were successfully vaccinated, or 31 per 1,000 of the population, the total cost being Rs. 13,800.

The Sanitary Commissioner supervises sanitary arrangements in villages, and his instructions and regulations are enforced by the local revenue officers and the police *pātels*. These officers have the power of fining persons who by storing manure or in any other way cause nuisances dangerous to health. In 1905 duties connected with village sanitation were entrusted to the local boards.

Surveys.

The system of measurement followed in the State is an improved combination of chain and cross-staff survey. Villages mapped by the chain survey are now being surveyed. All *talātis* and *tajvīzdars* (subordinate revenue officials) have to pass an examination in revenue survey, so that they may be able to check boundary marks according to the village maps, to help the *tāluka* officers in cases where survey units are divided, and inquire into field boundary disputes, encroachments, &c. There are also trained inspectors appointed to the different *tālukas* to examine the boundary marks, and to see that the survey is maintained in all its details.

[James Forbes: *Oriental Memoirs*, 4 vols. (1813).—A. K. Forbes: *Rās Mālā*, 2 vols. (1856).—F. A. H. Elliot: *Baroda Gazetteer* (Bombay, 1883).—*Census Reports*, 1881, 1891, and 1901.—*Annual Administration Reports* from 1875–6.—R. Bruce Foote: *Geology of the Baroda State* (Madras, 1898).—J. Burgess and H. Cousens: *Architectural Antiquities of Northern Gujarāt* (1903).—*Bombay Gazetteer: Kāthiāwār* (Bombay, 1884).]

DISTRIBUTION OF POPULATION, BARODA STATE, 1901

Prānt.	Area in square miles.	Number of towns.	Number of villages.	Total population.			Urban population.			Persons per square mile in rural areas.
				Persons.	Males.	Females.	Persons.	Males.	Females.	
Kadi .	3,015	18	1,063	834,744	426,723	408,021	173,758	86,417	87,341	277
Baroda .	1,887	17	904	644,071	341,693	302,378	205,240	110,040	95,200	288
Navsāri .	1,952	6	772	300,441	150,789	149,652	45,128	22,455	22,673	154
Amreli .	1,245	6	296	173,436	89,429	84,007	44,724	23,345	21,379	139
Total	8,099	47	3,035	1,952,692	1,008,634	944,058	468,850	242,257	226,593	241

STATISTICS OF AGRICULTURE AND IRRIGATION, BARODA STATE, FOR THE YEAR ENDING JULY 30

(In square miles)

	1881–90 (average).	1891-1900 (average).	1901.	1904-5.
Total area	8,570	8,226	8,099	8,099
Cultivable, but not cultivated .	1,411	1,505	1,258	1,763
Uncultivable	2,524	2,474	2,400	2,585
Total cultivated area . .	4,635	4,247	4,441	3,751
Irrigated from canals . .	...	1	3	... *
" " wells and tanks .	178	243	219	... *
Total irrigated area . . .	178	244	222	... *
Unirrigated area . . .	4,457	4,003	4,219	... *
Cropped Area.				
Rice	82	80	101	190
Bājra	1,108	958	909	764
Jowār	846	727	1,075	770
Wheat	170	200	208	150
Other food-grains and pulses .	946	924	802	545
Castor-oil seed	30	39	55	... †
Rapeseed	103	93	81	27
Sugar-cane	13	7	6	4
Cotton	960	853	738	927
San-hemp	2	4	4	12
Poppy	13	10	11	14
Tobacco	37	34	40	21
Miscellaneous	475	397	448	444
Area double cropped . .	44	48	37	117

* Not available. † Included under miscellaneous.

Statistics of Education, Baroda State

	1891.				1901.				1904-5.			
	Number of institutions.	Scholars.			Number of institutions.	Scholars.			Number of institutions.	Scholars.		
		Males.	Females.	Total.		Males.	Females.	Total.		Males.	Females.	Total.
Public.												
Arts college	1	113	...	113	1	216	...	216	1	225	...	225
High schools	2	697	...	697	3	886	...	886	3	1,126	...	1,126
Anglo-vernacular schools	11	908	...	908	14	1,401	...	1,401	14	1,486	...	1,486
Primary schools	374	38,988	4,467	43,455	1,119	62,509	14,427	76,936	1,163	63,013	12,235	75,248
Training schools	2	74	19	93	1	...	25	25	2	66	26	92
Special schools	4	497	...	497	9	817	...	817	8	974	...	974
Private (with grant-in-aid).												
Advanced	4	373	...	373	4	639	...	639	4	483	...	483
Elementary	121	7,303	...	7,303	61	5,524	...	5,524	66	4,985	185	5,170
Orphanages	...	...	...	...	...	...	...	...	5	94	71	165
Total	519	48,953	4,486	53,439	1,212	71,992	14,452	86,444	1,266	72,452	12,517	84,969

Baroda Prānt.—A *prānt* or district of the Baroda State, lying between 21° 50′ and 22° 45′ N. and 72° 35′ and 73° 50′ E., with an area of 1,887 square miles. It is bounded on the north by the Kaira District of Bombay; on the west by Broach, Cambay, and part of Kaira; on the south by Broach and the Rewā Kāntha; and on the east by the Rewā Kāntha and the Pānch Mahāls. Most of the *prānt* forms a compact block between the Narbadā and the Mahī, but the Petlād *tāluka* lies separate, north of the latter river. The southern portion of the *prānt* is largely composed of black soil, which, though fertile, produces few trees. In the north the red soil is thickly wooded. The *prānt* is either traversed or skirted by the rivers Mahī, Dhādhar, Narbadā, Vishwāmitri, Suryā, Meni, Or, Hiran, Unchh, and Oswan.

The country is largely under cultivation, and the vegetation therefore consists chiefly of the crops with their accompanying weeds. The hedges enclosing fields consist of shrubs like *Maerua*, *Cadaba*, *Diospyros*, *Celastrus*, with occasionally fleshy species of *Euphorbia*; associated with these shrubby species are trees of *Bombax malabaricum*. The climbing plants in the hedges include species of *Leguminosae*, *Convolvulaceae*, *Menispermaceae*, and *Asclepiadaceae*. In waste places and on waysides occur *Tephrosia purpurea*, *Heylandia latebrosa*, *Waltheria indica*, *Hibiscus Gibsoni*, *Argemone mexicana*, and similar species. In the neighbourhood of dwellings are seen mangoes, tamarinds, *baels*, several species of *Ficus*, *Anona squamosa*, *Jatropha Curcas*, and other more or less useful planted or sub-spontaneous species.

The population in 1872 was estimated at 747,437, and at the next two enumerations it was (1881) 761,501, (1891) 817,023; while in 1901 it was only 644,071, of whom 523,999 were Hindus, 36,713 Animists, 64,148 Musalmāns, and 10,916 Jains. The terrible diminution in the population was due to the disastrous effects of famine and plague. The *prānt* is divided into nine *tālukas* and two *petas* or sub-*tālukas*, the population of which in 1901 is shown in the table on the next page.

The principal towns are BARODA CITY, PETLĀD, DABHOI, SOJITRĀ, VĀSO, PĀDRA, NAR, PIHIJ, and SINOR. Gujarātī is spoken by 93 per cent. of the population, and Hindustāni by 5 per cent., while nearly a fourth of the inhabitants of the city use Marāthī. In 1901 the *prānt* contained 6,943 native Christians. The American Methodist Episcopal Mission has adherents in 125 villages and towns, numbering approximately 5,200. In addition to two orphanages, it provides a training school for teachers and preachers, and fifty-five day-schools.

The prevailing black soil is very fertile, and requires little manure or irrigation, while *gorāt* or sandy loam needs both. The Petlād *tāluka* is noted for the cultivation of tobacco. The chief crops are rice, *bājra*,

jowār, wheat, *math*, gram, *adad*, *tuver*, *val*, *chola*, *tal*, *diveli*, cotton, sugar-cane, *kasumbo*, and tobacco. Many other minor crops and vegetable products are raised for local consumption.

Tāluka.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Baroda (city excluded)	160	...	110	60,428	332	− 37·4	6,375
Pādra	196	1	82	73,395	374	− 20·5	6,727
Petlād	181	7	68	134,558	743	− 14·1	17,001
Sāvlī	188	1	75	38,340	204	− 14·6	3,250
Sisva	83	1	30	43,461	524	− 19·4	4,232
Chorānda	284	...	99	48,758	208	− 22·2	5,128
Vaghodia	143	...	71	20,804	145	− 23·9	1,087
Dabhoi	190	1	102	49,077	258	− 17·8	6,319
Sinor	139	1	45	29,979	216	− 23·3	4,339
Sankheda	280	2	190	36,665	159	− 35·7	3,072
Tilakwāda	34	1	32	4,816	141	− 48·2	304
Total	1,878	15	904	540,281	288	− 22·9	57,834
Baroda city with cantonment	9	2	...	103,790	11,532	− 12·2	21,678

The weaving of coarse cotton cloth is the chief industry. But in addition may be mentioned the manufacture of fine turbans at Dabhoi, of cloths at Sojitrā, Petlād, and Bakrol, of embroidery with gold and silver thread at Baroda, and of gold and silver ornaments in most towns. Iron-work is poor, but good locks are made at Petlād, Sojitrā, and Vāso. Excellent brass and copper pots are manufactured everywhere. The only cotton-mill is at Baroda, but there are twenty-six ginning factories. A dyeing factory has been working at Petlād for some years. The chief centres of trade are Baroda, Dabhoi, Chāndod, and Petlād, which are connected by rail. The *prānt* is well provided with communications, as the main line of the Bombay, Baroda, and Central India Railway runs from north to south, with a State branch from Anand to Petlād and Cambay, and narrow-gauge lines connect Dabhoi with Bodeli, Chāndod, Sinor, and Mobha. In addition, the Baroda-Godhra chord line on the broad gauge crosses the *prānt*. The chief roads are those from Baroda to Pādra, Makarpura, Ajwa, and Sāvli, from Petlād to Sojitrā, and from Chāndod to Sinor.

The land revenue decreased from 37·9 lakhs in 1881 to 36·8 in 1891, but rose to 39·8 lakhs in 1901. In 1904–5 the demand was 30·7 lakhs, but owing to famine only 23·8 lakhs was collected. The average assessment per *bīgha* ($\frac{4}{7}$ acre) varies from about R. 0–3–9 in Pādra to Rs. 4 in Sinor. The *prānt* was settled for fifteen years between 1888 and 1893, and a revision is now in progress.

Besides Baroda city the *prānt* contains ten municipalities: namely, Dabhoi, Petlād, Pādra, Sinor, Sojitrā, Vāso, Sāvli, Bhādran, Sankheda, and Makarpura. Their funds, amounting to Rs. 14,800 in 1904–5, besides the income from customs, excise, and tolls in Dabhoi, are provided by the State. A District board and local boards were constituted in 1905.

The *prānt* is administered by the *Sūbah*, whose head-quarters are at Baroda city. The *prānt* Judge also holds his court at the same place.

Education is well provided for, there being a college in Baroda city and also a high school, while the number of Anglo-vernacular schools is 6, and of vernacular schools 476. These schools were attended in 1904–5 by 35,780 pupils. The *prānt* contains a civil hospital, a leper hospital, a lunatic asylum, and 10 dispensaries, in which 131,322 patients were relieved in 1904–5, of whom 1,044 were in-patients.

Baroda Tāluka.—Central *tāluka* of the Baroda *prānt*, Baroda State, with an area of 160 square miles. Excluding the city, the population fell from 96,387 in 1891 to 60,428 in 1901. It contains 110 villages, besides the city and cantonment. The *tāluka* is a level plain watered by five rivers, the Mahī, Meni, Rungal, Jāmbva, and Vishwāmitri. The prevailing soil is black, though two other classes, *gorāt*, or sandy loam, and *besār*, a mixed soil, are found interspersed with it. The chief crops grown are *dāngar*, *jowār*, *bājra*, *tuver*, *tal*, *math*, *shiālu*, and cotton. In 1904–5 the land revenue was Rs. 3,68,000.

Baroda City.—Capital of the Baroda State, situated in 22° 18′ N. and 73° 15′ E., on the Vishwāmitri river, 244½ miles from Bombay by rail, and 61½ miles south-by-south-east of Ahmadābād. The population at the last three enumerations was: (1881) 106,512, (1891) 116,420, and (1901) 103,790. In 1901 Hindus numbered 80,834, Musalmāns 18,770, and Jains 2,266.

The municipal board, reconstituted in 1906, has an income of about 2 lakhs, derived from octroi, fines levied for permission to erect new houses, &c., sales of land, and a conservancy tax. In 1904–5 the expenditure was 2·4 lakhs, the chief items being roads (Rs. 91,000), conservancy (Rs. 61,000), and administration (Rs. 32,000). The aspect, comfort, and health of the city have recently been considerably improved. A free supply of filtered water, supplied from the Ajwa reservoir, is distributed to every street by means of pipes. Drainage works are being constructed to carry off storm water and sullage from the houses. New roads have been constructed, old roads have been made wider, new buildings have been erected on every side, old and inconvenient ones have been removed, the streets are clean and well lighted, and conservancy is carefully attended to.

The city proper is enclosed by the old walls of the fort. It is approached from the railway station by a road which, at first broad and

straight, gradually becomes narrower and more tortuous. Close to the station is the magnificent building erected for the Baroda College, at a cost of more than 6 lakhs. It is situated in a spacious compound, which also contains residential quarters for students, a fine botanical garden, a cricket ground, a tennis court, and a gymnasium. A little farther is the entrance of the public park, and across the Vishwāmitri stands the Countess of Dufferin Hospital, a handsome modern building, with wards for male in-patients, and the Victoria Jubilee ward for female in-patients. Just beyond it, and on the same side, is the Sayāji Rao Military Hospital, for the reception of the sick from all regiments of the Baroda forces. In the suburbs of the city stands the house of the famous minister Gangādhar Sāstri, while close by a steep ascent up a short hill leads to what is called the Jūna Kot, or old fort, probably the most ancient portion of the Hindu town of Baroda. The principal offices of the State are located here, and just opposite is the new Survey Office. A large building has recently been constructed for the safe custody of records. The State Library, a small but handsome erection, is close to the Record Office. From the Laharipura or western gate a broad and picturesque street leads through the city to the clock-tower. At right angles to this street branch off *pols* or wards belonging to distinct classes and castes of people, and forming *culs-de-sac* the entrances of which are barred by heavy doors. Close to the clock-tower is the old palace in which the Gaikwārs lived formerly; and immediately behind it, rising high above surrounding buildings, stands the white stucco Nazar Bāgh palace which was erected by the Mahārājā Malhār Rao. The Gaikwār's jewels, which are stored here, have been valued at over 3 crores. They include a diamond necklace, one of the stones of which is known as 'the Star of the South,' a brilliant of perfect water weighing 125 carats (originally 254½), estimated to be worth 9 lakhs, and a cloth embroidered with precious stones and seed pearls which was designed to cover the Prophet's tomb at Mecca. Not far from the Nazar Bāgh is an old building containing a fine library collected by Sampat Rao Gaikwār. The Nazar Bāgh adjoins a continuation of the Laharipura street, terminating in the eastern or Water Gate. On its southern side are the military office, and the lines where the gold and silver guns are kept. Just beyond the Water Gate is the arena where public sports are still held. From the clock-tower a road leads to the Chāmpāner Gate, and another to the Rhinoceros or South Gate. Near the western gate is the Sursāgar, a large reservoir of water with stone banks, and masonry steps in places. The length of this tank is 1,057 feet, its width 665 feet, and its average depth 12 feet. In the neighbourhood is the Chimnābai Nyāya Mandir, or 'temple of justice,' occupied by the High Court, and named after the late Mahārānī Chimnābai. Close to it are two other fine structures, the female

training college and the Anglo-vernacular school. Another educational building is the Kala Bhavan, a technical institution where students learn dyeing, weaving, carpentry, smithy-work, drawing, &c. The Central jail is a carefully constructed building arranged on modern principles. The public park contains a museum, beautiful gardens, and a collection of wild animals. Just beyond the park is the lunatic asylum, a new and spacious building.

Besides the Nazar Bāgh palace, the Makarpura palace is situated about 4 miles to the south of the city. It was originally erected by Khande Rao, but has been much enlarged and improved. It is now surrounded by fine gardens containing fountains, grottoes, and pergolas, and is used by the Mahārājā as a country residence. The chief palace is, however, the Lakshmī Vilās, a building in the Hindu-Saracenic style, which cost about 60 lakhs. It contains a large Darbār hall, with mosaic decorations on the walls and a mosaic floor specially executed by Italian workmen, and covered wooden galleries reserved for ladies. The palace is well furnished, and contains bronze statues and costly paintings by European artists. The grounds have been laid out by an English landscape gardener, and add greatly to the attractiveness of the palace.

There are many other objects of interest in Baroda, of which perhaps the most notable are the Hindu temples which crowd the city. Close to the stone bridge which crosses the Vishwāmitri are the temples raised to the memory of several members of the Gaikwār family, as well as two temples to Mahādeo. Other temples of importance are Bande's, which has the largest allowance from the State; the Sidhnāth temple, Lakshman Bava's Mandir, Kālikā's temple, and Bolai's temple, all of which are supported by the State. There are also the temples of Khandoba, the tutelary god of the Gaikwār family, and those of Bechrāji and Bhīmnāth, where Brāhmans undergo penance for the spiritual welfare of the Mahārājā's house. Ganpati's Mandir and the temple to Kāshi Vishveshvar mark the liberality and religious aspirations of the late Gopāl Rao Mairāl, banker, financier, and minister. The chief Gujarāt temples are those of Narsinhji, Govardhan-Nāthji, and Baldevaji, while high above all other buildings in the city, except the Nazar Bāgh, towers the temple built by the followers of Swāmi Nārāyan.

There is no characteristic art in Baroda deserving of special mention. A few artisans are proficient in wood-carving, some in lacquer-work, and some in iron grille work suitable for balcony railings. Calico-printing is also carried on to meet the demand for cheap cotton *sārīs*. Embroidery with gold and silver thread of a superior description is produced to a small extent. A cotton spinning and weaving-mill built by the State was transferred to a private firm in 1905, and other mills are being built.

The cantonment or Camp lies north-west of the city, from which it is

separated by the Vishwāmitri. Its area is about 2 square miles, and its population (1901) 3,162. The garrison consists of a regiment of native infantry belonging to the Indian army. In or near the cantonment are the church consecrated by Bishop Heber in 1825, the Residency (just outside the boundary line), a stone column raised to the memory of Mr. Williams a former Resident, the American Methodist Episcopal Church and orphanages (280 boys, 260 girls), vernacular schools for boys and girls, and a school for European children maintained by the Government of India and the Baroda State jointly.

Baroda Town.—Town in the Sheopur district of Gwalior State, Central India, situated in 25° 29′ N. and 76° 42′ E. Population (1901), 6,381. Baroda is now the chief town of the Sheopur-Baroda *jāgir*, subordinate to Gwalior. The holders are Gaur Rājputs from Bengal. In the twelfth century Bachh Rāj established himself at Ajmer, whence the family were driven by the Muhammadans about two hundred years later. For services rendered to the Delhi emperors certain lands were granted to them, including the territory lying between the Pārbati and Kuntī rivers; and Sheopur, 12 miles north of Baroda, became their head-quarters. During the Marāthā inroads of the eighteenth century the Rājā was forced to acknowledge the suzerainty of Sindhia. Subsequently Daulat Rao Sindhia assigned the lands then held by Rājā Rādhika Dās of Sheopur to his general Jean Baptiste Filose, who compelled the Rājā to relinquish them. Rādhika Dās was, however, permitted to retain a portion of his former territory, including twenty-three villages, and to take up his residence at Baroda. In 1813 twelve additional villages were assigned to him. In 1857 the Rājā revolted and his estates were confiscated, but were restored in 1859, through the mediation of the Resident at Gwalior. The present holder is Rājā Bijai Singh, who succeeded in 1865.

Baroda.—Village in the Gohāna *tahsīl* of Rohtak District, Punjab. *See* BARAUDA.

Barot.—Town in the Bāghpat *tahsīl* of Meerut District, United Provinces. *See* BARAUT.

Barpetā Subdivision.—Subdivision of Kāmrūp District, Eastern Bengal and Assam, lying between 26° 5′ and 26° 49′ N. and 90° 39′ and 91° 17′ E., on the north bank of the Brahmaputra, with an area of 1,274 square miles. In 1901 the population was 115,935, compared with 135,705 in 1891. It contains one town, BARPETĀ (population, 8,747), the head-quarters, and 600 villages. The land revenue and local rates amounted in 1903–4 to Rs. 2,54,000. The subdivision is sparsely peopled, and there are only 91 persons per square mile, as compared with 153 in the District as a whole. The decrease of nearly 15 per cent. in the last intercensal period was due to exceptional unhealthiness and to the damage done by the earthquake of 1897. The

annual rainfall averages 96 inches at Barpetā, but nearer the Himālayas it is considerably higher. The subdivision has always been liable to injury from flood, and since 1897 this liability has been seriously increased. Mustard was at one time extensively grown on the marshes that fringe the bank of the Brahmaputra, but the land now frequently remains too cold and wet to admit of a crop being raised. In the northern *mauzas*, which are almost exclusively inhabited by Kachāris, rich crops of rice are raised on fields irrigated from the hill streams. Elsewhere *bao*, a long-stemmed variety of winter rice, is the staple crop.

Barpetā Town.—Head-quarters of the subdivision of the same name in Kāmrūp District, Eastern Bengal and Assam, situated in 26° 19′ N. and 91° 1′ E., on the right bank of the Chaulkhoā, connected by a cart-road with the Kholābānda *ghāt* on the Brahmaputra about 15 miles away. Population has steadily decreased during the last thirty years, and was only 8,747 in 1901. Barpetā is famous as the site of a *sattra* or religious college founded by the Vaishnavite reformer Sankar Deb at the end of the fifteenth century. The ground surrounding the *sattra* is considered holy, and is crowded with native huts, huddled together in the most insanitary propinquity. The town has always been liable to flood; but since the earthquake of 1897 the annual inundations have been more extensive, and for some time the prisoners, the treasure, and the office records had to be kept in boats. It contains a hospital with four beds, and a high school which in 1903–4 had an average attendance of 113 boys. Barpetā was formed into a municipality in 1886. The receipts and expenditure during the ten years ending 1902–3 averaged Rs. 10,000. In 1903–4 the income was Rs. 9,000, including taxes on houses and lands (Rs. 3,500) and a grant from Provincial revenues (Rs. 2,500); while the expenditure was Rs. 16,000, the chief items being conservancy (Rs. 3,300) and public works (Rs. 10,000). Barpetā is one of the few places in Assam where the Assamese have displayed any commercial aptitude. They retain all business in their own hands, and there is a considerable trade in mustard seed and other country produce. The manufactures are not important, but include canoes, earthenware well rings, and artistic gold filigree work.

Barrackpore Subdivision.—North-western subdivision of the District of the Twenty-four Parganas, Bengal, lying between 22° 35′ and 22° 57′ N. and 88° 21′ and 88° 31′ E., on the left bank of the Hooghly, with an area of 190 square miles. The subdivision, which was formed in 1904 from portions of the Sadar and Bārāsat subdivisions, consists of a long narrow strip of riparian land and contains a number of low-lying swamps, but the parts along the banks of the Hooghly are higher and healthier. The population in 1901 was 206,311, the density being 1,086 persons per square mile. The bank

of the Hooghly north of Calcutta is lined with mills, which provide labour for a large industrial population. The subdivision contains twelve towns, all lying within this tract: NAIHĀTI (population, 13,604), HĀLISAHAR (10,149), BHĀTPĀRA (21,540), GĀRULIA (7,375), BARRACKPORE North (12,600) and South (19,307), TITĀGARH (16,065), PĀNĪHĀTI (11,178), KĀMĀRHĀTI (13,216), BARANAGAR (25,432), and DUM-DUM North (9,916) and South (10,904). The remainder of the inhabitants live in 163 villages. The head-quarters of the subdivision are at Barrackpore, historically important as the scene of the outbreak of two mutinies. Cantonments are situated within the North Dum-Dum and South Barrackpore municipalities, and there is a Government ammunition factory at Dum-Dum. Barrackpore also contains the suburban residence of the Viceroy.

Barrackpore Town.—Head-quarters of the subdivision of the same name in the District of the Twenty-four Parganas, Bengal, situated in 22° 46′ N. and 88° 21′ E., on the east bank of the Hooghly river, 15 miles above Calcutta. The town is comprised within two municipalities: North and South Barrackpore, containing, in 1901, 12,600 and 19,307 inhabitants respectively. South Barrackpore includes Barrackpore cantonment, with a population in 1901 of 9,888. The name is probably derived from the fact of troops having been stationed here since 1772; the natives call the place Chānak. To the south of the cantonment is Barrackpore Park, which has been laid out with much taste; it contains the suburban residence of the Viceroy of India, built by Lord Minto and enlarged by the Marquis of Hastings. The military force stationed at Barrackpore consists of a field battery, a company of British infantry, and a native infantry regiment.

Barrackpore has played a part in two mutinies. In 1824, when Bengal troops were required to take part in the Burmese War, the 47th Bengal Infantry, which was stationed here, was warned for foreign service. Alarmed by rumours that they were to be transported to Rangoon by sea, the regiment mutinied on parade on October 30. After ineffectual attempts at conciliation, the regiment was paraded on November 1 in presence of Sir Edward Paget, the Commander-in-Chief, who directed them either to obey the orders to march or to ground their arms. Upon their refusal, a battery of European artillery, supported by two British regiments, opened fire upon the mutineers, who broke at once and made for the river, throwing away their arms. Some were shot, some drowned, and others hanged; and the number of the regiment was removed from the Army List.

The first sparks of the Mutiny of 1857 were kindled in Barrackpore. The excitement which had been rapidly spreading among the native troops culminated on March 29, when Mangal Pānde, a sepoy of the 34th Native Infantry, attempted to kill one of the officers, Lieutenant

Bough, fired at a European sergeant-major, and called upon his comrades to join him. These outrages were committed within a few yards of the quarter-guard, which took no steps to interfere. As a punishment for this mutinous behaviour, the regiment was disbanded with ignominy on May 6, Mangal Pānde and the native officer in charge of the guard having been previously tried by court-martial and hanged. A full account of these events will be found in Sir John Kaye's *History of the Sepoy War*, vol. i, pp. 266–9, 495.

Barrackpore is an important station on the Eastern Bengal State Railway, and the head-quarters of the recently constituted Barrackpore subdivision. It contains the usual public offices, a sub-jail with accommodation for 14 prisoners, and the Bholā Nāth Bose Hospital with 18 beds. The town is a favourite residence of Europeans, and the Christian population numbers 914.

The North Barrackpore municipality was constituted in 1869. The income and expenditure during the eight years ending 1903–4 averaged Rs. 11,000. In 1903–4 the income was Rs. 13,000, including Rs. 5,000 from a tax on persons and the same amount from a conservancy rate; and the expenditure was Rs. 11,600. The municipal office is at Nawābganj, the residence of the Mandal family of *zamīndārs*. Within the municipal area is PALTĀ, where the Calcutta water-works are situated, and Ichāpur, where there is a Government rifle factory. The GĀRULIA municipality was separated from North Barrackpore in 1896.

The South Barrackpore municipality was also constituted in 1869. Its area has been curtailed of late years by the separation of the TITĀGARH municipality in 1895 and of the PĀNĪHĀTI municipality in 1900. The income during the four years ending 1903–4 averaged Rs. 10,000, and the expenditure Rs. 9,000. In 1903–4 the income was Rs. 11,000, mainly from a tax on persons (or property tax), a conservancy rate, and a tax on houses and lands; and the expenditure was Rs. 9,000. The municipal office is at KHARDAH.

The receipts and expenditure of the cantonment fund during the decade ending 1901 averaged Rs. 25,000, and in 1903–4 they were Rs. 34,000 and Rs. 33,000 respectively.

Barren Island.—A volcanic island in the Andaman Sea, lying about 71 miles north-east of Port Blair. *See* ANDAMAN ISLANDS.

Barsāna.—Town in the Chhāta *tahsīl* of Muttra District, United Provinces, situated in 27° 39′ N. and 77° 23′ E., 31 miles north-west of Muttra city. Population (1901), 3,542. According to modern Hindu belief, this was one of the favourite residences of Krishna's mistress, Rādhā. It lies at the foot and on the slope of a hill originally dedicated to Brahmā. The hill has four peaks, each crowned with buildings erected during the eighteenth and nineteenth centuries; and the importance of the place dates from the settlement here of

a Brāhman who had been family priest to the Rājās of Bharatpur, Gwalior, and Indore early in the eighteenth century. In 1774 the Jāts under Sumrū were defeated near Barsāna by the imperial troops, who plundered the town. A magnificent new temple is being built by the Mahārājā of Jaipur.

Bārsi Tāluka.—*Tāluka* of Sholāpur District, Bombay, lying between 17° 57′ and 18° 26′ N. and 75° 36′ and 76° 7′ E., surrounded on all sides by the Nizām's Dominions, with an area of 596 square miles. There are two towns, BĀRSI (population, 24,242), the head-quarters, and VAIRĀG (5,163); and 122 villages. The population in 1901 was 139,435, compared with 140,322 in 1891. With the exception of the Sholāpur *tāluka*, Bārsi is the most thickly populated in the District, with a density of 234 persons per square mile. The demand for land revenue in 1903–4 was 2 lakhs, and for cesses Rs. 14,000. The *tāluka* is crossed by several streams, and is, on the whole, well wooded. The villages are small, and lie chiefly on river banks. Bārsi has a better climate and a more plentiful and regular rainfall than the rest of Sholāpur.

Bārsi Town.—Head-quarters of the *tāluka* of the same name in Sholāpur District, Bombay, situated in 18° 14′ N. and 75° 41′ E. Population (1901), 24,242, including Hindus, 20,881; Musalmāns, 2,785; and Jains, 515. Bārsi is an important centre of trade, with a large export of cotton, linseed and other oilseeds, chiefly to Bombay. There are seven cotton presses, employing about 500 persons. The town is connected with Bārsi Road station on the Great Indian Peninsula Railway by the Bārsi Light Railway, opened in 1897. It possesses a fine temple of Bhagwān, richly ornamented. The municipality, constituted in 1865, had an average income during the decade ending 1901 of Rs. 36,000. In 1903–4 the income was Rs. 51,000. Bārsi contains a Subordinate Judge's court, eight schools, including one for girls, attended by 411 and 52 pupils respectively, and two dispensaries, one of which belongs to the railway company. The water-supply is obtained from a reservoir built in 1877 at a cost of Rs. 28,000. The reservoir, which covers an area of 65 acres near the town, is designed to contain 19,000,000 cubic feet of water.

Bārsī Tākli.—Town in the District and *tāluk* of Akola, Berār, situated in 20° 35′ N. and 77° 7′ E. Population (1901), 6,288. At this place there is a remarkably fine Hemādpanti temple, with an inscription giving the date Saka 1098 (A.D. 1176), which is probably the date of its construction.

Bārsoi.—Village in the head-quarters subdivision of Purnea District, Bengal, situated in 25° 38′ N. and 87° 53′ E., on the east bank of the Mahānandā. Population (1901), 3,101. It is a railway junction on the Eastern Bengal State Railway, from which a branch runs to

Kishanganj. It has one of the largest weekly markets in the District, the chief articles of trade being dried fish, tortoises, *gur*, country-made cloth, chillies, turmeric, onions, jute, and mustard. Gunny-bags and mats of local manufacture are also largely sold.

Bāruipur.—Town in the head-quarters subdivision of the District of the Twenty-four Parganas, Bengal, situated in 22° 21′ N. and 88° 27′ E., on the banks of the Adi Gangā (original bed of the Ganges), 15 miles south of Calcutta. Population (1901), 4,217. The town was formerly the head-quarters of a subdivision of the same name, which was amalgamated with the Alipore subdivision in 1883. Bāruipur derives its name from the extensive cultivation of *pān* (*Piper Betle*) by the Bārui caste. The town is a mission station of the Society for the Propagation of the Gospel, and contains a large church. Bāruipur was constituted a municipality in 1869. The income during the decade ending 1901–2 averaged Rs. 4,700, and the expenditure Rs. 4,500. In 1903–4 the income was Rs. 6,900, including Rs. 3,000 derived from a tax on persons; and the expenditure was Rs. 7,200.

Bārul.—Village in the Asansol subdivision of Burdwān District, Bengal, situated in 23° 44′ N. and 87° 7′ E. Population (1901), 532. It lies in the middle of the iron-ore tract and has given its name to the surrounding iron-ore field. The total amount of ore extracted in 1900 was 57,000 tons, or nearly three times the quantity obtained ten years previously.

Barūr.—Town in Amraotī District, Berār. *See* WARUD.

Bāruva.—Seaport and station on the East Coast Railway in the Sompeta *tahsīl* of Ganjām District, Madras, situated in 18° 53′ N. and 84° 36′ E. Population (1901), 4,161. Coco-nut oil and coir rope are made in the neighbourhood. The port, which is open only to coasting trade, is marked by two obelisks 50 feet high, built on a site 15 feet above the sea, bearing north-west from the usual anchorage. Government has planted a casuarina grove to the south-west of the custom-house to protect the building from drifting sand, and this also serves as a landmark to mariners. The only steamers touching at the port are those of the British India Steam Navigation Company, which call weekly on their voyages between Cocanāda and Rangoon. In 1903–4, 9,500 native passengers travelled to Burma and 7,650 returned by these boats. In the same year the exports to Burma, chiefly coir rope and dried fish, were valued at Rs. 13,000. There were no imports from Burma.

Barwāha (or Barwai).—Town in the Nimār district of Indore State, Central India, situated in 22° 15′ N. and 76° 3′ E., 33 miles south of Mhow cantonment on the Indore-Khandwā road and the Khandwā-Ajmer branch of the Rājputāna-Mālwā Railway, which both cross the Narbadā by a fine bridge 2 miles south of the town. It

occupies a picturesque site on the bank of the Choral, a tributary of the Narbadā. Population (1901), 6,094. Barwāha, which is said to have been originally called Babulīkhera, was founded in 1678 by Rānā Sūraj Mal, an ancestor of the present *zamīndārs*. It is a place of some importance, and was always a favourite resort with Sivajī Rao Holkar, who built a fine palace on the ridge overlooking the Choral valley. An old fort, now used for the district offices, and an old temple to Jayantī Māta stand near the town. A municipal committee has been formed, which has an income of Rs. 1,300 a year, chiefly derived from octroi and other taxes. The town contains a British and a State post office, a school, a dispensary, a *sarai*, and a Public Works inspection bungalow.

Barwānī State.—A guaranteed chiefship in Central India, under the Bhopāwar Agency, lying between 21° 36′ and 22° 7′ N. and 74° 28′ and 75° 16′ E., along the left bank of the Narbadā river, with an area of 1,178 square miles. It is bounded on the north by the Dhār State; on the north-west by Alī-Rājpur; on the east by a portion of the Indore State; and on the south and west by the Khāndesh District of Bombay. The State lies generally in the hilly tracts division of Central India, but falls internally into two subdivisions: that of the Narbadā valley district, formed of a fertile alluvial plain; and the remainder of the State, which is rough and hilly. Much of the country is very picturesque, with a succession of ranges and valleys covered with thick forest. In these valleys many traces of former prosperity are met with, such as ruined forts, mosques, and dwelling-houses, now overgrown with jungle, but once used by the Mughal nobles and officials of the Bijāgarh *sarkār* of the *Sūbah* of Mālwā. The climate is subject to greater extremes of heat than Mālwā, while the cold season is of short duration. The annual rainfall, as recorded at Barwānī, averages 22 inches.

The chiefs of Barwānī are Sesodia Rājputs, connected with the house of Udaipur. Tradition traces their descent from the second son of Bāpā Rāwal, the founder of that house, one of whose descendants migrated in the eleventh or fourteenth century into the Narbadā districts, and fixed his residence at Avāsgarh, a hill fort about 8 miles from Jalgun. The history of the line is for the most part lost in obscurity. According to the State records there have been in all fifty-one Rānās; but little is known of them, and it is difficult to determine the time at which many of them lived. Paras Rām (Parsān) Singh, the thirty-fifth chief, was defeated by the Muhammadans, and taken a prisoner to Delhi, where he embraced Islām on the condition that he should be allowed to retain his ancestral estates. His successor Bhīm Singh and the two Rānās who followed, though nominally Hindus, were virtually Muhammadans. About 1650 Chandra Singh, forty-first of the line, finding that Avāsgarh was too weak a position, moved the capital to Barwānī;

and the State has since then been known by its present name. In the time of Mohan Singh, son and successor of Chandra Singh, the greater part of the State was seized by the Marāthās. This period marks the decline of the house; and though the Barwānī Rānās managed to keep their independence, and were never actually tributary to any of the great Mālwā chiefs, they were finally left with the small strip of territory they now hold instead of their former extensive domains. In 1794 Rānā Mohan Singh II succeeded, and was ruling during the settlement of Mālwā by Sir John Malcolm. He died in 1839 and was succeeded by his son Jaswant Singh, who, in 1861, was removed from the administration owing to his incapacity, but was restored to power in 1873, and dying in 1880 was succeeded by his brother Indrajīt, whose administration was also not a success. On his death in 1894, his eldest son, Ranjīt Singh the present chief, succeeded at the age of six. During his minority he was educated at the Mayo College at Ajmer. The chief bears the title of Rānā, and receives a salute of 9 guns.

Population has been: (1881) 56,445, (1891) 80,266, and (1901) 76,136. The number increased by 42 per cent. between 1881 and 1891, but fell by 5 per cent. during the last decade. The density is 65 persons per square mile. Hindus number 38,670, or 50 per cent.; Animists (chiefly Bhilālas), 32,894, or 43 per cent.; and Musalmāns, 4,197. The true percentage for Animists is higher than stated above, as large numbers of Bhilālas returned themselves as Hindus, the total of those speaking Bhīl dialects giving 68 per cent. of the population, which is nearer the truth. The State possesses one town, Barwānī (population, 6,277), the capital; and 333 villages. Almost the entire population is composed of jungle tribes, who, though describing themselves as agriculturists, in fact do but little cultivation. Agriculture supports 65 per cent. of the inhabitants, and general labour 6 per cent.

The total area is thus distributed: cultivated, 302 square miles, or 26 per cent., of which 3 square miles are irrigated; forest, 566 square miles, or 48 per cent.; cultivable land not under cultivation, 152 square miles; waste, 158 square miles. Of the cropped area, *jowār* covers 61 square miles; *bājra*, 56; cotton, 39; *til*, 31; maize, 20; wheat, 5; gram, 4 square miles; and poppy only 12 acres. Cattle-breeding has always been a speciality of this region, bullocks of the Nimār breed being much in demand, on account of their size and strength. Unfortunately, of late years breeding has not been very systematically carried on.

The rates of assessment are fixed according to the capability of the soil, varying from Rs. 2-6-5 to Rs. 8 per acre for irrigated land along the Narbadā; from Rs. 2-6-5 to Rs. 3-1-0 per acre for unirrigated lands, and 6 annas for the rocky soils of the hills. Special rates are given to Bhīl cultivators to induce them to settle, only Rs. 7-8-0 being

demanded from them per 'plough' (15 acres) of land, where other cultivators pay Rs. 20.

The distance of the State from all railways has delayed the development of trade, although much has been done of late years to increase facility of communication by the construction of feeder-roads in connexion with the Agra-Bombay trunk road, the principal route for traffic. In 1891 there were only 7 miles of metalled roads in the State. There are now 118 miles, providing feeders to the Agra-Bombay trunk road. The road from Barwānī town to Julwānia is the general route for goods and passengers passing to the railway at Mhow, the nearest station, which is 80 miles distant from Barwānī. Four British post offices are maintained—at Barwānī, Anjar, Rājpur, and Khetia—and State offices at other places, with a telegraph office at Barwānī.

The State is divided into four *parganas*, each in charge of a *kamāsdār*, with head-quarters at Anjad, Pānsemal, Silāwad, and Rājpur. The chief, when exercising powers, has complete civil and revenue control, but in criminal matters submits all cases punishable under the Indian Penal Code with seven years' imprisonment or over for trial by the Political Agent, while sentences by the chief of two years' imprisonment or over have to be confirmed by that officer. All appeals from subordinate courts lie to the chief. The British codes, modified to suit local usage, have been adopted in the courts. The State being at present under British administration owing to the minority of the Rānā, the general control lies with the Political officer. The medical and forest departments are in charge of the Agency Surgeon and Forest officer, respectively.

The total revenue is 4·5 lakhs, of which 1·9 lakhs is derived from land, Rs. 28,000 from forests, Rs. 30,000 from customs, and Rs. 29,000 from excise. The land revenue demand amounts to 15 annas per cultivated acre, and 4 annas per acre of total area. The chief heads of expenditure are general administration (Rs. 56,000), chief's establishment (Rs. 53,000), and public works (Rs. 1,10,000). The State pays no tribute to any Darbār and receives no allowances, but it contributes Rs. 3,389 yearly towards the up-keep of the Mālwā Bhīl Corps. The British rupee has been legal tender since 1892. The sale of *gānja*, *bhang*, and opium is controlled by the State. In the hills an excise rate of Rs. 2-8-0 is levied from each Bhīl village through the headmen, the Bhīls being then allowed to prepare their own liquor. A Central jail is maintained at Barwānī, and a regular civil police force has been established. The first school in the State was opened in 1863. In 1898 the Victoria High School was affiliated to the Calcutta University. There are now 19 schools with 1,000 pupils. In 1901, 3 per cent. of the population (almost entirely males) could read and write. Six dispensaries have been opened in the State.

Barwānī Town.—Capital of the State of the same name, in Central India, situated in 22° 2′ N. and 74° 54′ E., 3 miles from the left bank of the Narbadā, and 80 miles from Mhow on the Rājputāna-Mālwā Railway. Population (1901), 6,277. The town is believed to have been founded in about 1650 by Rānā Chandra Singh. Five miles from the town is Bāwangaja[1] ('52 yards') hill, a place of considerable sanctity among the Jains. Its name is derived from the popular idea of the height of the gigantic figure of the Jain teacher Gomateswara, cut in the face of the hill about three-quarters of the way up the slope. On the summit is a small temple constructed from the remains of an older building, which contains two inscriptions dated 1166 and 1459. Large numbers of Jain pilgrims visit the place on the full moon of the month of Pausha (January). At the foot of the hill stand some modern Jain temples, which are examples of the degraded style of Hindu architecture followed in so many modern structures. A State guest-house, a hospital, British post and telegraph offices, a jail, and a school are situated in the town.

Barwā Sāgar.—Town in the District and *tahsīl* of Jhānsi, United Provinces, situated in 25° 22′ N. and 78° 44′ E., on a branch of the Great Indian Peninsula Railway. Population (1901), 6,355. The town stands near a fine lake formed by damming the Barwā, an affluent of the Betwā. The lake is used for irrigation, and the embankment and channels are in the charge of the Public Works department. North-west of it stands a castle said to have been built by Udit Singh, Rājā of Orchhā. The neighbourhood is rich in antiquarian remains dating from the Chandel period or even earlier. Barwā Sāgar contains a school with 75 pupils. It is administered under Act XX of 1856, with an income of about Rs. 700. Ginger and vegetables are largely grown in the neighbourhood, and there is a flourishing local trade.

Basantia.—Village in the head-quarters subdivision of Jessore District, Bengal, situated in 23° 8′ N. and 89° 22′ E., on the Bhairab, 12 miles east of Jessore town. Population (1901), 1,420. It has a considerable trade in sugar and rice. Being the nearest point to Jessore to which boats of a large size can come, it may be said to serve as a port to that town; there is also a large country traffic by road between Basantia and Jessore.

Basantpur.—Head-quarters of the Arāriā subdivision of Purnea District, Bengal, situated in 26° 18′ N. and 87° 33′ E., on the right bank of the Panār river. Population (1901), 2,792. Basantpur is 4 miles west of Arāriā village, which gives its name to the subdivision, and it contains the usual subdivisional offices; the sub-jail has accommodation for 17 prisoners.

[1] Dr. Impey, *Journal of the Royal Asiatic Society, Bombay Branch*, vol. xviii, p. 918.

Basārh.—Village in the Hājīpur subdivision of Muzaffarpur District, Bengal, situated in 25° 59′ N. and 85° 8′ E. Population (1901), 3,527. Basārh is identified with the capital of the ancient kingdom of Vaisālī. In the sixth century B.C. a confederacy of the Lichchavis was predominant here, and was able to prevent the kingdom of Magadha from expanding on the north bank of the Ganges. Vaisālī was a great stronghold of Buddhism, and Gautama visited it three times during his life. Here was held the second Buddhist council which had so great an effect in splitting up the Buddhists into the Northern and Southern sects. The town was visited by Fa Hian and Hiuen Tsiang; the latter found it in ruins. The principal antiquarian feature of the place is a large brick-covered mound, measuring 1,580 feet by 750 and representing the remains of a vast fort or palace. In the neighbourhood is a huge stone pillar surmounted with the figure of a lion. This monolith, though locally known as Bhīm Singh's *lāth*, appears clearly to be one of the pillars erected by Asoka to mark the stages of the journey to Nepāl which he undertook in order to visit some of the holy sites of Buddhism. It bears no inscription, but can be identified with one of the Asoka pillars mentioned by Hiuen Tsiang at the site of ancient Vaisālī.

[*Archaeological Survey Reports*, vol. xvi, pp. 89–93; and *Reports of the Archaeological Surveyor, Bengal Circle*, for 1901–2 and 1903–4.]

Basavāpatna.—Deserted town in the Channagiri *tāluk* of Shimoga District, Mysore, situated in 14° 12′ N. and 75° 49′ E., 16 miles from Channagiri town. It lies in a narrow valley enclosed by hills, and was the original seat of the chiefs who, when Basavāpatna was taken by the Bijāpur army in the invasion of 1637, retired to Tarikere, and are commonly identified with the former place. It was the seat of government for this part of the country under Bijāpur rule, and under the Mughals afterwards. Later it changed hands several times, and was held by the Marāthās for seven years. Haidar Alī dismantled the fort in 1763, and the Marāthās under Parasurām Bhao sacked the town in 1791. The fort was repaired in 1799, but the place never recovered its former prosperity. Near the fort was a mosque where Bābā Budan lived before he settled on the mountain called after him.

Bashahr.—One of the Simla Hill States, Punjab, lying between 31° 6′ and 32° 5′ N. and 77° 32′ and 79° 4′ E., with an area of 3,820 square miles. Population (1901), 80,582. Number of villages, 70. Between 1803 and 1815 Bashahr was held in subjection by the conquering Gurkhas. On the overthrow of the Gurkha power in 1815, the British Government confirmed the Rājā of Bashahr, by a *sanad*, in possession of all his territories, subject to the payment of a tribute of Rs. 22,500. In 1847 the tribute was reduced to Rs. 5,910, as compensation for the abolition of transit duties. The present Rājā, Sham-

sher Singh, who is a Rājput, tracing back his descent for 120 generations, succeeded in 1850. He is of weak intellect, and, since the death of his only son in 1898, the State has been managed by an official deputed by Government. The Rājā is required to furnish troops in aid of the British Government in time of war, and labour for the construction of roads in the Bashahr territory. The revenue of the State is about Rs. 85,000, the chief sources being land and forests. The forests are leased to the British Government for Rs. 10,000 per annum.

Basi.—Head-quarters of the Basi *tahsīl* of the Kalsia State, Punjab, situated in 30° 35′ N. and 76° 54′ E. Population (1901), 4,641. The income of the municipality, wholly derived from octroi, was Rs. 2,604 in 1903–4; and the expenditure was only Rs. 158. The town has a vernacular middle school and a dispensary.

Basi.—Head-quarters of the Amargarh *nizāmat*, Patiāla State, Punjab, situated in 30° 42′ N. and 76° 28′ E., 6 miles north of Sirhind. Population (1901), 13,738. Known in Mughal times as Basti Malik Haidar, the capital of the *nizāmat* was established here, as Sirhind itself was held accursed by the Sikhs. It is a flourishing mart for agricultural produce, and has a considerable manufacture of cotton cloth. It is said to export Rs. 10,000 worth of pepper annually. The town is now connected with the North-Western Railway at Sirhind by a mono-rail tramway, 5 miles in length, which was opened in February, 1907. The town has a vernacular middle school and a police station.

Bāsim District (or Wāshim in Marāthī).—District in Berār, lying between 19° 25′ and 20° 28′ N. and 76° 40′ and 78° 14′ E., with an area of 2,949 square miles. In 1905 this District ceased to exist, its component *tāluks* being divided between Akola and Yeotmāl. It was bounded on the north by Akola and Amraotī Districts; on the east by Wūn District; on the south by the Pengangā river and the Hyderābād State; and on the west by Buldāna District.

Physical aspects.

The District is situated in the Bālāghāt of Berār, the table-land on the south of the Pūrna valley. The Bāsim *tāluk*, the most westerly, consists of a rich table-land of the average height of about 1,000 feet above sea-level, sloping down towards the west and south to the fertile valley of the Pengangā. The other two *tāluks*, Mangrūl and Pusad, are mainly a succession of low hills covered with poor grass, the formation being trap. The soil of the hollows between the hills is usually of the best quality. Many of the hill peaks rise to a height of 2,000 feet, and along the ranges of the Pusad *tāluk* stretch wide slopes of woodland, containing some teak. The scenery of the more hilly portions of the District is fine, especially in the rains and the early part of the cold season, when the hills are still covered with vegetation and the grass has not been burnt yellow by the sun.

The principal river is the Pengangā, which, except in one corner of the Bāsim *tāluk*, forms the boundary between the District and the Nizām's Dominions. Entering the District near Wākad on the west, it flows in a south-easterly direction as far as the south-eastern corner of the Pusad *tāluk*. It then takes a sharp turn and flows in a north-westerly direction, resuming its original course, after another sudden bend, close to Māhūr in the Nizām's Dominions. The Pūs is the principal affluent of the Pengangā in the District. It rises near Bāsim town and flows in a south-easterly direction through the Pusad *tāluk*, joining the Pengangā at Sangam, after a course of 64 miles. The Kāta Pūrna runs from its source nearly due north until it reaches the slopes of the Bālāghāt, where it inclines eastward, entering Akola District near Mahān. Other insignificant streams are the Arān, Kūch, Adol, and Chandrabhāga, all tributaries of the Pengangā.

The whole District, like the greater part of the Bālāghāt, is covered with flows of Deccan trap, which were erupted at about the end of the Cretaceous times, the volcanic activity lasting, probably, till the beginning of the Tertiary period. The trap is covered, on the Bāsim plateau and also in the valleys, with black loam. Iron ore is found in the high lands, but probably not in workable quantities.

The commonest trees in cultivated lands are the *babūl*, the *pīpal*, the mango, the tamarind, and the *mahuā*. Forests will be noticed separately. The weed vegetation is that chiefly characteristic of the Deccan, including many small *Compositae* and *Leguminosae*.

Tigers, leopards, bears, wild hog, antelope, *nīlgai*, spotted deer, and *chinkāra* are fairly common; and the wild dog (*Cyon dakhunensis*), the jackal, the wolf, and the hunting leopard (*Cynaelurus jubatus*) are also found in the District.

The hot season is less severe than in the Pāyānghāt. The highest and lowest readings of the thermometer in May, July, and December, 1901, a normal year, were 114° and 84°, 86° and 76°, and 77° and 68°. The climate is fairly uniform, but slightly higher temperatures are experienced in the river valleys. The hot season is intensely dry, and therefore healthy; the weather in the rains is usually cool and pleasant, and the cold season is temperate and healthy.

The rainfall, which is uniform throughout the District, exceeds the rainfall in the Pāyānghāt. In 1901, a normal year, nearly 41 inches were registered. The Pengangā sometimes rises, but no serious damage has ever been done by such floods; and the District has been fortunate in escaping serious natural calamities other than famine.

Bāsim never existed as a separate political entity, and its history is chiefly bound up with that of the Province of which it has always formed part. In the days of the Mughal empire Bāsim was the head-quarters of a *sarkār*, or revenue district, which extended on

both sides of the Pengangā, and the *Ain-i-Akbarī* makes mention of the Hatgars or Bargi Dhangars ('shepherd spearmen') inhabiting the hill north of the Pengangā. They were proud and refractory, and possessed a force of 1,000 cavalry and 5,000 infantry. These highland chiefs owned little more than nominal allegiance to the lowland rulers, whether Hindu or Musalmān, and thus they continued until the establishment of British rule. In 1671 the District was plundered by Pratāp Rao, one of Sivajī's generals. In 1795, after the battle of Kardla, the *pargana* of Umarkhed, with other territory elsewhere, was ceded by the Nizām to the Peshwā; and in 1818 Bājī Rao Peshwā, after the rout of Siwni, fled through Umarkhed before Sir John Doveton, whom he contrived to elude. In 1819 the Hatgar Naiks of the District broke the peace, and Naosajī Naik Muskī gave battle to the Hyderābād Contingent troops under Major Pitman at Umarkhed. He was driven into his stronghold of Nowah, which was gallantly carried by assault, and the Naik was sent to Hyderābād, where he died. After the Peshwā's downfall the Umarkhed *pargana* was transferred by the East India Company to the Nizām. In 1858 a gang of plundering Rohillas were pursued by a detachment of the Hyderābād Contingent into the village of Chichambā, near Risod, where, behind walls, they resisted an assault by the fatigued troops, in which Captain Mackinnon was killed.

History.

On the Assignment, in 1853, when Berār was divided into two Districts, Bāsim was included in West Berār, and soon afterwards became the head-quarters of a subdivision. In 1868 the subdivisional officer was made independent of the Deputy-Commissioner at Akola, and in 1875 the subdivision was formed into a District under the charge of a Deputy-Commissioner.

The temple of Antariksha Pārsvanātha at SIRPUR, in the Bāsim *tāluk*, belonging to the Digambara Jain community, is the most interesting monument of the past in the District. An old tank at Bāsim is known as the Padma Tīrtha, but the date of its construction cannot be ascertained. Pusad has two very fine Hemādpanti temples.

Population.

The number of towns and villages in the District in 1901 was 827. The population rose between 1867 and 1891, and then declined. The number at the four enumerations was as follows: (1867) 276,646, (1881) 358,883, (1891) 398,181, and (1901) 353,410. There has thus been a net increase of 76,764 since 1867. The great decrease during the last decade was due to the scarcity of 1896-7, the famine of 1899-1900, and mortality from epidemic disease. The District included the three *tāluks* of BĀSIM, MANGRŪL, and PUSAD, named from the towns at which their head-quarters are situated. It contained three towns: BĀSIM, PUSAD, and MANGRŪL.

The following table gives particulars of area, towns and villages, and population in 1901 :—

Tāluk.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Bāsim . .	1,046	1	324	153,320	147	− 13·5	4,193
Mangrul . .	630	1	202	91,062	144	+ 10·4	1,767
Pusad . .	1,273	1	298	109,028	86	− 21·6	2,816
District total	2,949	3	824	353,410	120	− 11·2	8,776

Bāsim stood fourth among the Districts of Berār as regards the density of its population (120 persons per square mile). More than 92 per cent. of the people are Hindus. The language usually spoken is Marāthī, but the Musalmāns use a corrupt dialect of Urdū, which is generally understood by all.

In Bāsim, as in all other Districts of Berār, the Kunbīs (110,000) are more numerous than any other caste; the Mahārs (50,700) come second, the Musalmāns (22,800) third, and the Banjārās (21,400) fourth, being more numerous than in any other District in the Province, except Wūn. Dhangars number 14,600, Mālīs 12,500, Brāhmans only 7,700, and Telis 7,600. The Hatgars, specially mentioned in the *Ain-i-Akbarī* as an important tribe in the *sarkār* of Bāsim, now number only 577, and are, strangely enough, less numerous here than in any District in Berār, except Amraotī and Ellichpur. The Banjārās in the *sarkār* of Bāsim are mentioned in the *Ain-i-Akbarī* as being under the headship of a woman; and it is known, from the change of surname among the local Naiks, who have their head-quarters at Narsī, in the Parbhani District of the Hyderābād State, that the office has descended at least once in the female line. The figures for castes, given above, clearly indicate the principal occupation of the people. The District is essentially an agricultural one, over 76 per cent. of its population living by the land. The percentage of the industrial population is 11.

There is only one Christian mission, which is supported by the American Episcopal Methodist body, and has its head-quarters at Bāsim. Of 229 Christians enumerated in the District in 1901, 212 were natives.

Agriculture.

The Bāsim *tāluk* is a rich table-land, the trap flows being here covered with a layer of black cotton soil of varying but nearly always sufficient depth. This layer is deeper in the valley of the Pengangā than elsewhere, the conditions of this area being not dissimilar from those of the Pāyānghāt. The surface of

the Mangrūl *tāluk* is more broken, but here too the soil is rich and of good quality, except on the hills. Pusad consists principally of a succession of low waste hills, the soil of which is often too poor to support anything but grass of an inferior quality; but in the hollows between the hills, and in the Pengangā valley, which is, however, very narrow here, the soil is rich and fertile. Cultivation depends almost entirely upon the south-west monsoon.

Almost the whole area is held *ryotwāri*; *ijāra*, *jāgīr*, and *pālampat* villages cover only 33 square miles. The principal statistics relating to the land in 1903-4 are given below, areas being in square miles:—

Total.	Cultivated.	Irrigated.	Cultivable waste.	Forest.
2,959	2,037	6	32	721

The staple food-grain is great millet (*jowār*), the area under which in 1903-4 was 822 square miles. Cotton, the most profitable crop, occupied 532 square miles, and the other important crops are wheat and oilseeds, which occupied 108 and 59 square miles.

After the Assignment, when the people began to return to the land, the rich soil of the Pāyānghāt was the first to be taken up, and the Bālāghāt remained comparatively neglected till later. In order to encourage cultivation in Bāsim District, it was considered desirable to lease entire villages on special terms to lessees who would be likely to repay themselves by importing sub-tenants, or, failing these, field labourers. Of these leased villages, forty-eight still remain. The measure undoubtedly gave an impetus to cultivation, but it may be doubted whether the wiser course would not have been to await patiently the extension, which was certain to come in time, of *ryotwāri* cultivation. For the last fifteen years the extension of the cultivated area has been steady and continuous. In agricultural practice there has, however, been no marked improvement. On the contrary, the cultivator here, as elsewhere in Berār, has abandoned the cultivation of the fine quality of cotton for which the Province was formerly famous, in favour of a coarser but more prolific variety. The ryots have not in the past availed themselves freely of the Loans Acts; but the famine of 1899-1900 brought the advantages offered under these Acts into prominent notice, and loans were freely applied for and taken. During the prosperous years which ensued there have naturally been fewer applications for loans, but the solvent and thrifty cultivator has doubtless learnt that it is the Government, rather than the money-lender, who is his friend in need.

The principal breed of cattle is the Umarda, or smaller variety of the Berāri breed; but the character of the cattle in the District has been

modified in the past by an admixture of the types found in the northern tracts of the Hyderābād State, and more lately, since recent years of scarcity and famine, by the importation of cattle of the Nimāri, Sholāpuri, and Labbāni breeds. Buffaloes are chiefly of the Dakhani breed. The local breeds of ponies, sheep, and goats are inferior, and the breeders have neither the knowledge nor the means necessary to their improvement.

Only 6 square miles of the cultivated land were irrigated in 1903-4, consisting almost entirely of garden crops, watered from wells.

Of the forest land, 266 square miles are reserved for the production of timber and fuel, 19 square miles are *ramna* land, and 436 square miles are grazing land. The forests producing timber are situated on the northern slopes of the Bālāghāt, in the Bāsim *tāluk*, on the hills north of the Pūs river between the Mangrūl and Pusad *tāluks*, on the hills forming the watershed between the Pūs and Pengangā rivers, and in the south-eastern corner of the Pusad *tāluk* in the loop of the Pengangā. All these forests contain teak, which varies in size and quality in different localities, the best being found in the Kinwat Reserve in the loop of the Pengangā. *Tiwas* (*Ougeinia dalbergioides*) is also common in this Reserve, but rarer elsewhere. *Ain* (*Terminalia tomentosa*), *dhaura* (*Anogeissus latifolia*), *lendia* (*Lagerstroemia parviflora*), and *dhāman* (*Grewia tiliaefolia*) are also common and useful trees. The following trees are common in both forest and cultivated land: *babūl* (*Acacia arabica*), *hiwar* (*Acacia leucophloea*), *mahuā* (*Bassia latifolia*), *gular* (*Ficus glomerata*), *chinch* or *imlī* (*Tamarindus indica*), and *ber* (*Zizyphus Jujuba*). The mango is cultivated, but does not grow wild in the forests; bamboos are rare, and, where found, inferior.

Forests.

The iron ore found in the Pusad hills, which has already been mentioned, seems to be the only mineral product of the District, and it is very doubtful whether it is of economic value.

There are no important manufactures. The principal industry is the preparation of cotton for the market. The District contained 16 ginning factories and 2 cotton-presses, all worked by steam.

Trade and communications.

The chief export is cotton, which is sent by road to Akola and thence by rail to Bombay. Some of the cotton from the south of the Pusad *tāluk* finds its way to the Hyderābād-Godāvari Valley Railway. Oilseeds and grain and pulse are also exported. The principal imports are grain and pulse, sugar, salt, and oils, which come chiefly from Akola, having been brought thither by rail. Most of the internal trade is effected through the agency of the weekly markets at *pargana* towns. Bāsim has a cotton market. The traders are chiefly Mārwāris and Komatīs.

There is no railway in the District; but a project to connect the Hyderābād-Godāvari Valley Railway with Khandwā, by means of a line which will run through Bāsim and Akola, is under consideration.

The total length of metalled roads is 62 miles, and of unmetalled roads 110 miles. All these, except 5 miles of the former and 27 of the latter which are maintained from Local funds, are in charge of the Public Works department. The principal road passing through the District is the Akola-Hingolī road, which passes through Medsī and Bāsim town, and is the highway from the latter place to the railway. The roads to Pusad and Umarkhed are metalled for a short distance only.

Famine.

As regards liability to famine, the District cannot be differentiated from the rest of Berār. The crops depend upon the south-west monsoon, the failure of which is not often so extensive as to cause severe distress. In 1896–7 the District suffered from scarcity owing to a partial failure of the rainfall, and in 1899–1900 the famine which was felt throughout Berār afflicted Bāsim severely. The difficulty of coping with this calamity was increased by the immigration of large numbers from the Hyderābād State, where relief measures were less perfect than in Berār. In May, 1900, when the distress was at its height, 103,215 persons were on relief works and 36,350 in receipt of gratuitous relief; and it is calculated that 24,000 cattle died.

Administration.

The three *tāluks*, at the head-quarters of each of which there is a *tahsīldār*, have already been mentioned. The superior staff of the District consists of the usual officers.

The arrangements for the administration of justice are described in the article on AKOLA DISTRICT. Dacoities, cattle-thefts, and house-breakings fluctuate in numbers, as elsewhere, with the state of the season, but are somewhat more numerous than in the Pāyānghāt, owing to the large number of Banjārās in the District. These, however, are gradually being weaned from their criminal propensities. Murders, which are not common, are usually due to personal motives.

According to the *Ain-i-Akbarī*, the land revenue demand in the *parganas* composing Bāsim District was 6·8 lakhs, a sum which but slightly falls short of the land revenue demand in the same area in 1903–4, which was 8 lakhs. The extent to which Bāsim, in common with the rest of Berār, suffered from the wars, maladministration, and natural calamities of the latter part of the seventeenth, the eighteenth, and the early part of the nineteenth centuries is illustrated by the striking fall in the land revenue demand, which in 1853, at the time of the Assignment, was returned by the Nizām's officers—who had certainly no reason for understating it—at 2·4 lakhs. Considering the extension of cultivation, and the rise in the price of produce since

Akbar's time, it is evident that the present assessment, though absolutely somewhat higher than Akbar's, is relatively very much lighter.

The first regular settlement of the District after the Assignment was made between 1872 and 1875, and is now expiring; but in those tracts where it has already expired the introduction of the new rates, assessed in 1899, has been postponed, owing to the extent to which the District suffered from the famine of 1899–1900. Under the new assessment the maximum rate is Rs. 1–12 per acre, the minimum 7 annas, and the average 12 annas 4 pies. Land irrigated from streams is assessed at a special land and water rate of Rs. 8 per acre, except in the Pusad *tāluk*, where, for the purpose of encouraging irrigation, it is assessed either as 'dry' land or as land irrigated from wells. Land irrigated from wells is assessed at the maximum rate for 'dry' land in the village in which it is situated where the wells have been sunk before the original survey; but land irrigated from wells sunk since that time is treated as 'dry' land. The average increase of the new rates over the old amounts to 32·2 per cent. throughout the District, but in areas in which the increase is greater than 33 per cent. the enhanced rates are to be gradually introduced.

Collections on account of land revenue and revenue from all sources have been, in thousands of rupees:—

	1880-1.	1890-1.	1900-1.	1903-4.
Land revenue . .	5,90	6,02	6,23	7,15
Total revenue . .	7,23	8,63	15,68	9,18

Bāsim town is administered by a municipality, and local affairs in the rest of the District were under the District board, with the three *tāluk* boards subordinate to it. The expenditure of the District board in 1903-4 was Rs. 65,000, of which Rs. 25,000 was laid out on public works and Rs. 10,000 on education. The principal sources of income were Provincial rates, assessed taxes, and the Provincial contribution for primary education.

The District had 20 police stations, 4 outposts, and 3 road-posts, and the force under the District Superintendent of police numbered 413 of all ranks. The District jail at Bāsim was the only jail, and contained in 1904 a daily average of 44 inmates.

Bāsim stood fifth among the six Districts of Berār in the literacy of its population, of whom 3·1 per cent. (6·0 males and 0·2 females) were able to read and write in 1901. Education is most advanced in the Bāsim *tāluk*. In 1903–4 the District contained 73 public, 19 aided, and 30 unaided schools with a total of 4,881 pupils, of whom 4,083 were in public schools and 370 were girls. Of the

74 primary schools, 69 were managed by the District board and 5 by the Bāsim municipality. The great majority of those under instruction were in primary classes, and no girls had advanced beyond this stage. Of the male population of school-going age, 6 per cent. were in the primary stage of instruction, and of the female population of the same age, 0·5 per cent. In recent years the experiment of combining elementary instruction in such handicrafts as cane-work and carpentry with the ordinary school course has been tried, but it is too soon to pronounce definitely on its success. The total expenditure on education in 1903–4 was Rs. 34,100, of which Rs. 29,000 was contributed by local bodies and Rs. 2,565 was realized from fees.

The District possessed one civil hospital and five dispensaries, with accommodation for 27 in-patients. In 1903 the number of cases treated was 36,467, of whom 252 were in-patients, and 940 operations were performed. The expenditure was Rs. 7,365, of which the greater part was met from Provincial contributions.

Vaccination has made satisfactory progress in the District. In 1903–4 the proportion of persons successfully vaccinated was 33·7 per 1,000, the mean for the Province being 36·6. Vaccination is compulsory only in the municipal town of Bāsim.

On the reconstitution of the six Districts of Berār in August 1905, Bāsim ceased to exist as a separate District. The *tāluks* of Bāsim and Mangrūl were transferred to Akola and now form the Bāsim subdivision of that District, and the *tāluk* of Pusad was transferred to Wūn, now designated Yeotmāl District.

Bāsim Subdivision.—Subdivision of Akola District, Berār, consisting of the BĀSIM and MANGRŪL *tāluks*.

Bāsim Tāluk.—Formerly the head-quarters *tāluk* of Bāsim District, but since August, 1905, the southern *tāluk* of Akola District, Berār, lying between 19° 52′ and 20° 25′ N. and 75° 40′ and 77° 28′ E., with an area of 1,046 square miles. The population fell from 177,250 in 1891 to 153,320 in 1901, and its density, 147 persons per square mile, is less than in any other *tāluk* except Mangrūl. The demand for land revenue in 1903–4 was Rs. 3,76,000, and for cesses Rs. 30,000. The *tāluk* contains 324 villages and only one town, BĀSIM (population, 13,823), the head-quarters of the *tāluk* and of the Bāsim subdivision. The northern part of the *tāluk* lies in the Bālāghāt, or southern plateau of Berār, but the southern portion lies in the valley of the Pengangā, which forms the southern boundary from Pārdī eastwards. The soil is fertile, especially in the Pengangā valley.

Bāsim Town (or Wāshim).—Head-quarters of the Bāsim *tāluk*, Akola District, Berār, situated in 20° 7′ N. and 77° 11′ E., at a height of 1,758 feet above sea-level; distant 52 miles south-south-east from Akola on the Nāgpur branch of the Great Indian Peninsula Railway,

with which it is connected by a good metalled road. Population (1901), 13,823. Bāsim is said to be a very old town, and to have been founded by Wachh, a Rishi. A legend tells of a king, Vāsuki, afflicted with leprosy, who was cured by bathing in a pool outside the town, which he enlarged to a tank, known as Padma Tīrtha, still largely resorted to for bathing. It is also said to petrify articles exposed to its action. The *deshmukhs* of Bāsim in the seventeenth century received large grants of land and perquisites from the Mughal emperors, and the family has always been of some consideration in South Berār. After the Bhonsla ruler of Nāgpur ceased to receive a share (40 per cent.) of the revenue, the Nizām stationed troops and established a mint at Bāsim. The most striking buildings are the temple and tank of Bālāji, constructed rather more than a hundred years ago by Bhawāni Kālu, a general of the Bhonslas. The municipality was created in 1867. The receipts and expenditure during the ten years ending 1901 averaged Rs. 13,400 and Rs. 12,700. In 1903-4 the receipts were Rs. 18,000, principally from taxes, the expenditure, mainly devoted to education and conservancy, being nearly the same. The town contains several ginning factories and a cotton-press. It was the head-quarters of Bāsim District till 1905, when that District ceased to exist as a separate administrative unit.

Basīrhāt Subdivision.—North-eastern subdivision of the District of the Twenty-four Parganas, Bengal, lying between 21° 31′ and 22° 55′ N. and 88° 33′ and 89° 6′ E., with an area of 1,922 square miles, of which 1,584 are included in the SUNDARBANS. The northern part of the subdivision consists of a fertile alluvial tract; but to the south, where the delta is in a less advanced stage of growth, there is a network of tidal creeks winding through numerous islands and morasses. The population in 1901 was 372,187, compared with 347,138 in 1891, the density being 194 persons per square mile. It contains three towns, BASĪRHĀT (population, 17,001), its head-quarters, BĀDURIĀ (12,921) and TĀKI (5,089); and 920 villages.

Basīrhāt Town.—Head-quarters of the subdivision of the same name in the District of the Twenty-four Parganas, Bengal, situated in 22° 40′ N. and 88° 51′ E., on the right bank of the Jamunā river. Population (1901), 17,001. Basīrhāt was constituted a municipality in 1869. The income and expenditure during the decade ending 1901-2 averaged Rs. 6,000. In 1903-4 the income was Rs. 6,600, mainly from a tax on persons; and the expenditure was Rs. 6,300. Basīrhāt contains the usual public offices; the sub-jail has accommodation for 12 prisoners. Basīrhāt is connected with Bārāsat, a station on the Eastern Bengal State Railway, by a metalled road 26 miles in length, along which a light railway with eight stations has recently been laid.

Basmat Tāluk.—Eastern *tāluk* of Parbhani District, Hyderābād State, with an area of 610 square miles. Including *jāgīrs*, the population in 1901 was 79,569, compared with 117,344 in 1891, the decrease being due to the famine of 1900. The *tāluk* contains one town, BASMAT (population, 8,445), the head-quarters; and 215 villages, of which 21 are *jāgīr*. The land revenue in 1901 was 3·2 lakhs. The country is composed mainly of black cotton soil.

Basmat Town.—Head-quarters of the *tāluk* of the same name in Parbhani District, Hyderābād State, situated in 19° 20′ N. and 77° 10′ E. Population (1901), 8,445. Besides the *tahsīl* and police inspector's offices, it contains three schools and a post office. Basmat is a busy centre of the grain trade.

Bāsoda (Nawāb-Bāsoda, Haidargarh-Bāsoda).—A mediatized chiefship in Central India, under the Bhopāl Agency, situated on the Mālwā plateau, with an area of about 40 square miles, and a population (1901) of 4,987. The town from which the State takes its name was founded by Rājā Bīr Singh Deo of Orchhā in the seventeenth century. It is often styled Muhammadgarh-Bāsoda and Haidargarh-Bāsoda, to distinguish it from the place of the same name in Gwalior State, but is generally called Nawāb-Bāsoda. The State is bounded on the west by the Sironj district of Tonk State, and a portion of Gwalior; on the north by the Saugor District of the Central Provinces, and the States of Pathārī, Korwai, and Muhammadgarh; on the east by Saugor District and Bhopāl; and on the south by Bhopāl.

The Nawābs of Bāsoda belong to the Korwai family founded by Muhammad Diler Khān, an Afghān of the Bārakzai Fīroz Khel, in the eighteenth century. On his death the State was divided between his two sons, Korwai falling to the elder. The younger, Ahsān-ullah Khān, settled at first at Rākha and Bahādurgarh, now Isāgarh in the Gwalior State, but being hard pressed by the Marāthās, moved his capital to Bāsoda in 1753. In 1817 the State fell into the hands of Sindhia, but was restored in 1822 on the mediation of the British authorities. The chief, though nominally subordinate to Sindhia, pays him no tribute, and in his relations with that Darbār receives the countenance and support of the Political Agent, who since 1822 has exercised the same general authority in this chiefship as in the guaranteed chiefships subject to his control.

Ahsān-ullah died in 1786, having alienated part of his possessions to form the State of Muhammadgarh. He was followed by Nawāb Bakā-ullah Khān and Asad Alī Khān, the last being at one time minister of the Bhopāl State, from which he was, however, removed for intriguing with the pretender Dastgīr. The present chief is Haidar Alī Khān, who succeeded in 1897, and bears the title of Nawāb. The State contains twenty-three villages, and is fertile and produces good crops

About 10 square miles, or 25 per cent. of the total area, are cultivated, 126 acres being irrigated. The chief exercises the criminal powers of a first-class magistrate, all heinous crimes being dealt with by the Political Agent. The normal revenue of the State is Rs. 19,000, of which Rs. 16,000 is derived from land. The incidence of the land revenue demand is Rs. 2-9-3 per acre of cultivated area. Bāsoda, the chief town, is situated in 23° 51′ N. and 77° 56′ E. Population (1901), 1,850. It contains a British post office, a jail, a school, and a dispensary.

Basrūr (the Barcelore or Barkalur of early geographers).—Village in the Coondapoor *tāluk* of South Kanara District, Madras, situated in 13° 38′ N. and 74° 45′ E., 4 miles east of Coondapoor. It was once a large walled town with a fort and a temple, and carried on an important trade with Malabar and the Persian Gulf; but its decline set in after the establishment of the Portuguese at Coondapoor in the eighteenth century, and it is now an insignificant place. The ruins of Sir Thomas Munro's courthouse are still pointed out. As Major Munro he was the first Collector of the District. Population (1901), 1,757.

Bassein District.—District of the Irrawaddy Division, Lower Burma, lying between 15° 50′ and 17° 30′ N. and 94° 11′ and 95° 28′ E., with an area of 4,127 square miles. It forms an irregular wedge-shaped strip of coast land and delta country, narrowing from north to south, in the extreme south-west corner of the Province. It is bounded on the north by Henzada and Sandoway Districts; on the east by Ma-ubin and Myaungmya; and on the south and west by the Bay of Bengal, which curves round its southern and western edges at the elbow formed by Pagoda Point. The District is divided into unequal parts by the Arakan Yoma, which enters Bassein at its north-western corner, and runs down its western side at no great distance from the sea. The main portion lies to the east of this range, consisting of a flat alluvial plain, the northern end of which is rich rice land. Farther south, between the Ngawun and Dagā rivers, it is flooded and poor. To the east of the Dagā and southwards towards Bassein town the land is slightly higher and more fertile. To the west of the Ngawun, as far as the bifurcation of the Dagā, the land is flooded and generally uncultivable. Below that point it is higher and of fair quality, while south of the town of Bassein it is typically deltaic, intersected by innumerable tidal creeks, marshy, and covered with mangrove jungle, with some stretches of rice land here and there. In the south the coast-line consists for the most part of a gently shelving sandy beach, backed by swampy forest land; in the west beyond Pagoda Point, where the hills enter the sea abruptly, the coast is rocky and difficult of approach. With the exception of the Arakan Yoma, which here is comparatively low, there is no high land

Physical aspects.

in the District. The whole face of the country is intersected by tidal channels, but they are for the most part unimportant waterways. The principal river is the Ngawun (or BASSEIN), which, leaving the Irrawaddy a short distance above Henzada, pursues a course almost due south through the whole length of the District, till it falls into the sea at Hainggyi. Its chief tributaries are the Dagā, joining it about 14 miles north of Bassein, and the Panmawadi, whose waters fall into it some 28 miles south of that town. The Bassein river has two mouths, but the eastern branch is silted up with sand and is useless for navigation. The western or main branch, on the other hand, is easily navigable by ocean-going vessels of a draught up to 27 feet, and is the main waterway to the town of Bassein.

Numerous stretches of water are found in the District; but the one real lake, called the Inye, has a circumference of 7 miles, and averages 15 feet in depth in the dry season. It is situated in the Kyonpyaw township, about 4 miles from Kyonpyaw in the north-east of the District. Islands are plentiful in the lower reaches of the Bassein river; but the only two deserving of special mention are Hainggyi or Negrais, near Pagoda Point, where the first British trading settlement in Burma was started, and DIAMOND ISLAND, called by the Burmans Thamihla ('beautiful daughter'), a low wooded islet about a square mile in area at the very mouth of the river.

The soil of a portion of the northern part consists of the usual agglomeration of clay and silt deposit common to alluvial rice-growing plains. North of Bassein town and east of Ngaputaw considerable beds of laterite are met with, covered in places with sandy deposits. On the west coast a remarkable patch of calcareous sandstone occurs. The Nummulitic or eocene group of rocks is well developed; in the Yoma and in the south these have been termed the Negrais beds. Subordinate to the sandstone an irregular bed of conglomerate occurs, which is, however, marked only near Ywatpa, where there is a so-called mud volcano. This is really only a small vent discharging marsh-gas, connected geologically, no doubt, with the mud volcanoes of Arakan. In the south, at Tonbo and Kyaukthinbaw, limestone of the very best quality is found. The supply is practically inexhaustible, the locality is convenient for working, and in consequence this area has been largely drawn on by the railway for ballasting the lately completed line from Rangoon to Bassein. Soapstone in small quantities is found in the Arakan Yoma, chiefly on the western slopes.

The botany of Bassein is similar to that of HANTHAWADDY DISTRICT. Large areas of mangrove swamp are found near the rivers, and inland are evergreen tropical forests. Palms of various kinds are common. The main varieties of timber trees are enumerated under the heading of Forests.

Tigers are scarce; but elephants, *sāmbar*, bison, leopards, and bears are fairly common in the western tracts towards the Yoma. The rhinoceros is nearly extinct, being ruthlessly hunted for its blood, which is accounted a valuable curative medium by the Burmans, among whom it sells for its weight in silver. In the less-developed parts the smaller kinds of deer and also wild hog were plentiful, but are being rapidly exterminated with nets. Crocodiles are found in most of the tidal creeks, and there are rich turtle-beds to the south near the coast.

The climate is rather relaxing, though the heat in summer is tempered to some extent by the strong sea-breezes which spring up in the afternoon. The mean of the maximum temperatures in the hotter months is generally about 95°, that of the minimum temperatures about 75°.

The rainfall is heavy, though, owing to the shelter afforded by the Arakan Yoma, it is not to be compared in volume with what the adjoining District of Sandoway receives. The annual average at the District head-quarters for the ten years ending 1904 has been 113 inches, while at the other recording stations it is highest at Ngaputaw in the south (129 inches), and lowest at Kyonpyaw in the north-east (88 inches).

The great cyclone of May 6, 1902, which affected the whole Burma coast, did some damage in the south and west of the District. Part of the central tract is inundated annually, but serious floods are not known.

History.

Little is known of the early history of the District. Its Burmese name is Pathein, though how and when this was corrupted into Bassein is far from clear. In old Talaing histories the thirty-two cities of Bassein are mentioned in A.D. 625 as forming part of the newly established kingdom of Pegu. For many centuries after this Bassein was the scene of constant struggles between the Talaings and the Burmans. The port of Bassein has from early days been a trading centre of some importance. In 1687, after two unsuccessful attempts to obtain a footing on the Irrawaddy delta, the East India Company occupied Negrais, an island now known as Hainggyi, at the mouth of the Bassein river, and a trading settlement was established there. In 1757 the Company obtained from Alaungpayā, the king of Ava, who two years previously had seized Bassein from the Peguans, the permanent cession of Negrais and of a piece of land at Bassein, in return for aid promised against the enemies of the Burmans. On October 5, 1759, however, nearly all the Europeans in the settlement were treacherously murdered by the Burmese officials, on suspicion of having helped the Talaings (or Peguans) against Alaungpayā. The brick walls of the factory are still standing. Negotiations in 1801–2 to regain Negrais were fruitless; and the British envoy was treated with characteristic insolence, the king of Ava, Bodawpayā, being then at the summit of his power. But in 1824, during the first Burmese War,

Bassein was taken and held as a pledge by the British till the evacuation of Pegu in accordance with the terms of the Treaty of Yandabo. During the second Burmese War, in 1852, the town was stormed by the British troops, and finally occupied. Shortly after the annexation it was proposed to move the District head-quarters from Bassein to what was thought a more suitable site nearer the mouth of the Bassein river; but the beginnings of the new civil station, which was to have been called Dalhousie, were wrecked by a cyclone in 1856-7, and the scheme was abandoned. Since 1854, when organized crime was checked by Major Fytche, the District has been quiet, except during the Bogale rebellion, which broke out simultaneously with the guerrilla war in Upper Burma (1806). The District as at present constituted has, so far as its external boundaries are concerned, been in existence since 1893, when a portion of its area was added to the newly created District of Myaungmya.

The most important shrines are the Shwemoktaw, the Mahābawdi, the Tagaung, and the Shwezigon pagodas in the town of Bassein itself; the Shinthedat pagoda at Kanni; the Dipayon pagoda at Mezali; the Hmawdin pagoda on a sea-girt eminence at the southernmost extremity of the District.

Population.

The population at the last four enumerations was as follows: (1872) 202,428, (1881) 268,169, (1891) 320,973, and (1901) 391,427. The principal statistics of area and population in 1901 are shown in the following table:—

Township.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Bassein	563	1	518	104,647	186	+ 11	26,262
Thabaung	1,118	...	440	47,802	43	+ 23	12,400
Ngaputaw	1,439	...	244	37,126	26	+ 25	9,444
Ngathainggyaung	345	1	387	64,891	188	+ 15	20,205
Kyonpyaw	292	...	466	70,010	240	+ 40	15,462
Kyaunggon	370	...	562	66,951	181	+ 29	14,671
District total	4,127	2	2,617	391,427	95	+ 22	98,444

The growth of population has been rapid, amounting to 45 per cent. since 1872; but it is likely to be less marked in future, as the District is said to have fewer attractions for immigrants than the adjoining delta areas. Except in the Thabaung and Ngaputaw townships, where there are hilly tracts, the density is high. There are only two towns of over 5,000 inhabitants: BASSEIN, the head-quarters of the District, and NGATHAINGGYAUNG. The population is chiefly Buddhist (348,100, or 89 per cent.). Christians come next with 22,400; Hindus number 12,600, and Musalmāns 6,400.

Burmese is spoken by 287,300 persons and Karen by 84,100, a figure which indicates that nearly all the Karens use their own vernacular. Though Talaings are numerous, the Talaing language appears to be hardly spoken at all in Bassein, while in the neighbouring District of Myaungmya it is still the speech of one Talaing out of four.

Burmans numbered 271,800 in 1901; Karens, 85,300 (mostly Pwos); Arakanese, 6,300; Talaings, 4,700. There are 1,200 Chinese, only 280 of whom are females. More than half the Musalmāns and nearly two-thirds of the Hindus live in Bassein town. The agricultural population in 1901 was returned at 259,100, or 66 per cent. of the total.

The large Christian population (more numerous than in any District of the Province except Toungoo) is chiefly due to the Karen converts of the American Baptist Mission, of whom 13,890 returned themselves as Baptists in 1901, and who also probably formed a large proportion of the 5,409 Christians who returned no denomination. Roman Catholics and Anglicans (principally natives) number more than 1,200 each. The total of native Christians was 22,000. The American Baptist Mission works among both the Karens and the Burmans. The Roman Catholics have three mission stations in the District.

Agriculture.

The conditions of agriculture are generally uniform. The richest land lies to the north and north-east. In the north the soil is composed of a rich silt-impregnated loam, protected from inundation by an extensive system of Government embankments, while in the north-east the land consists of new clearings of rich tree-jungle. The southern portion of the tract north of the Dagā is liable to floods caused by the back-wash from the Ngawun. South of the Dagā the land is slightly higher and consequently of poorer quality, but it falls rapidly south of the town of Bassein. The Ngaputaw township, except for some high ground in the Thongwa circle, is flat and marshy, the soil is thin, and the surface of the land is intersected by tidal creeks. On the west bank of the Ngawun the lower levels are as a rule flooded, owing to the embankment on the east bank of that stream; and the ground gradually rises from the river to the hills, where cultivation is found only in minute patches on the gentler slopes, or in the valleys between the hill ranges. About 37 miles of the Ngawun embankment lie within the limits of the District. This work, with its continuation northward in Henzada, forms a raised embankment 151 miles in length, protecting from inundation about 1,600 square miles of country.

The methods of cultivation exhibit little variety in the different tracts. Ploughing is performed with a rough wooden plough, consisting of a transverse bar from 7 to 8 feet long, with seven, eight, or nine pointed wooden teeth fixed in it. This is drawn in every direction across the field, more or less frequently according to the quality of the soil. The

rice is then ordinarily transplanted from the nurseries in which it has been raised. In the Ngaputaw township, however, the grain is generally sown broadcast, the soil here being poorer, and the cost of labour high. In the flooded portions of the District transplanting is not possible till October, and the success of the crop then altogether depends on the sufficiency or otherwise of the later rains.

The main agricultural statistics for 1903-4 are shown below, areas being in square miles:—

Township.	Total area.	Cultivated.	Irrigated.	Forests.
Bassein	563	244	...	284
Thabaung	1,118	81	1·3	
Ngaputaw	1,439	107	...	
Ngathainggyaung	345	136	0·3	
Kyonpyaw	292	171	0·3	
Kyaunggon	370	120	0·1	
Total	4,127	859	2	284

In the same year 802 square miles were under rice (*kaukkyi*). *Mayin*, or hot-season rice, is grown, but only to a small extent. Garden cultivation covered 41 square miles, of which the plantain groves of the Kyonpyaw township on the banks of the Dagā constitute about a third. The *dani* palm is cultivated in the Ngaputaw and Bassein townships on 2,100 acres, and tobacco on 2,700 acres in the Ngathainggyaung township in the north of the District. The size of the average agricultural holding is about 18 acres.

No efforts are made by the husbandmen to improve the quality of the crop by selection of seed, or to increase the out-turn by artificial manuring, though some years ago the properties of basic slag as a fertilizer were tested. Nor is any improvement likely to occur so long as the Bassein milling firms refuse to give higher rates for better-class paddy. Experiments in the cultivation of tobacco have not found favour with the local agriculturists. Agricultural advances, generally for purchase of cattle or seed-grain, are eagerly taken up, especially in the Bassein subdivision, where cattle-disease is particularly rife. The yearly loss of cattle is enormous, and more stringent measures to eradicate disease are required. The total amount advanced in 1903-4 was Rs. 15,140.

The cattle of Bassein are of the common breeds of the country, and, except in the Ngathainggyaung subdivision, are only of ordinary quality. In the north, however, where the grazing facilities are good, the live-stock, and especially the bullocks, are above the average. Scarcely any Indian cattle are kept, except in Bassein and Ngathainggyaung towns. As is usually the case in the delta Districts, where land communications are not good, ponies are scarce and the local breed is of

poor quality. Beasts imported from Prome and other breeding centres command high prices. Goats are few in number.

The grazing is ample, and no difficulties are encountered in feeding stock. The grazing-grounds are, however, largely devoid of shade, and this fact and the badness of the water-supply in the hot season are the principal causes of disease. The total area of grazing-ground actually reserved is 104,852 acres, and the total number of cattle in 1903-4 was 153,700, showing about three-fourths of an acre per head of stock.

Fisheries, &c.

Numerous fresh-water fisheries exist, a full account of which will be found in a report by Major Maxwell, published in 1904. They lie for the most part in the north-east of the District. The most important fishery is the Inye Lake in the Kyonpyaw township, the lease of which fetches about Rs. 28,000 annually. Of turtles, both the loggerhead and the green variety are plentiful along the southern coast. The most valuable bank is that at Diamond Island, from which Major Maxwell estimates an out-turn of one and three-quarter millions of turtles' eggs annually, valued at more than a quarter of a lakh. The District fishery revenue amounted to 2·9 lakhs in 1903-4.

The forests present two types. The first is found along both slopes of the Yoma, and is evergreen, interspersed with patches of bamboo. On the western slope it has been greatly overworked in the past, and steps are being taken to 'reserve' large portions. This tract contains *pyingado*, *pyinma*, and about thirty other kinds of timber, and provides large quantities of canes and bamboos used in the fisheries all over the delta and for building. The second type of forest is marshy and tidal, and contains various species of mangrove, *kanazo*, and other inferior woods, used mainly for fuel. Owing to unrestrained clearing of forest in the north-east, fuel will probably be scarce before long in that quarter. The area of protected and 'reserved' forests is 208 square miles, and that of unprotected but 'reserved' forests 76 square miles. The forest receipts in 1903-4 amounted to a lakh.

The only minerals are pottery clay, laterite, limestone, and sandstone, and they are of little commercial importance. The requirements of the newly constructed railway have brought about a temporary development of the limestone and sandstone industry; but, this demand satisfied, the further working of these mineral resources is likely to stop. Laterite is worked in a spasmodic fashion to meet the requirements of the Public Works department or the Bassein municipality, and pottery clay is collected by the pot-makers of Sinobo and Kwinlya; but there is no systematic working of minerals.

A little gold and silver work is done in Bassein, but it is ordinarily of poor quality. The best-known hand industries are pot-making and the manufacture of umbrellas. Glazed pottery is made principally at

Sinobo near Bassein, and at Kwinlya below Ngathainggyaung. The Bassein umbrella is made of paper or pith, and is generally decorated with elaborate hand-painted floral designs. The country salt, known as *kyinsa*, is used largely in the making of *ngapi*, pressed fish or salted fish paste, which is extensively manufactured in the District. From 30 to 40 parts of salt are mixed with 100 parts of fish to make this. A full description of the methods of manufacture is given in the fishery report referred to above, which enumerates eighteen kinds of *ngapi*, all made in different ways and all bearing different names. It is customary in some cases for the bark of the *ondon*-tree (*Tetranthera laurifolia*) to be pounded up and mixed with the *ngapi*, its object being to prevent decrease of weight through shrinkage.

Trade and communications.

The principal factories of Bassein are the rice-mills, of which there are eight, five owned by British firms and three by German. Another, managed by a foreign firm, is in process of construction, and a few minor concerns are the property of residents of Bassein. The rice turned out is of the kind known as 'cargo rice,' i. e. one-fifth of the husk is left on the milled product.

Saw-mills are the only other factories of importance, the most important being one owned by the Sgaw-Karen Baptist Mission. The number of logs sawn in it in 1901 was 4,500, but the completion of the railway and the consequent demand for sleepers has considerably increased the output since then. *Pyingado* is the principal timber dealt with in the mills. Salt is obtained in the Ngaputaw township by concentration under solar heat, and then by boiling.

The maritime export trade of Bassein is practically confined to rice, which is grown in the District and milled in the town into 'cargo rice' prior to export to Europe. In 1903–4 the exports of rice were 152,000 tons, valued at 104 lakhs. The total imports by sea in the same year were valued at only Rs. 1,35,000. Owing to the absence in most of the mills of plant for the production of 'white rice,' the exports to India are insignificant. Ordinarily the most important oversea imports are salt, coal, and coco-nuts. Salt comes mainly from Europe, coal from Calcutta, and coco-nuts from Madras or the Straits. A brisk trade in general merchandise is carried on by river steamers with Rangoon and other delta towns. The imports are piece-goods, hardware, and the like; and the exports are *ngapi* and other local products. The bulk of the petty trade is still in the hands of the Burmans, but natives of India and Chinamen also do a large and growing business.

The Bassein-Henzada-Letpadan railway, opened to traffic in 1903, passes through the District for 66 miles and taps the centre of it. The principal stations are Dagā, Athok, Yegyi, and Zayathla. The railway is already very popular with passengers, though it has so far attracted

little goods traffic, and all the paddy still comes by river to be milled at Bassein.

In the south of the District, where communication is almost entirely by water, the roads are chiefly in the immediate neighbourhood of Bassein town. The total length of metalled roads outside the town is 42 miles, $15\frac{1}{2}$ of which are kept up from Provincial and $26\frac{1}{2}$ from District cess or other Local funds. The total length of unmetalled roads is 53 miles, 24 being maintained from Provincial and 29 from Local funds. The principal roads are: the Bassein-Shwemyindin road, the Bassein-Henzada road, and the Bassein-Shanywa road. In the Ngathainggyaung subdivision the main highways are from Ngathainggyaung to Ataung (via Kyonpyaw), from Yegyi to Inma (via Athok), and from Inma to Kyonpyaw. In the north the embankments constructed by Government about thirty years ago to prevent the flooding of low-lying areas afford a convenient means of communication during the rains. The Ngawun and Dagā rivers are navigable practically throughout the District. No sea-going lines of passenger steamers call at the port of Bassein; but the Irrawaddy Flotilla Company runs steamers from Bassein three times a week to Rangoon via Myaungmya, Wakema, and Ma-ubin, and to Kyonpyaw, daily to Myaungmya, and twice a week to Ngathainggyaung, and in the rains onwards to Henzada. The south is served by private launches. The District east of the Yoma contains scarcely a single village of any size which is not supplied with some form of steamer service. Native boats, large and small, ply on all the inland waters, and numerous ferries are maintained.

The District is divided into two subdivisions, with head-quarters at Bassein and Ngathainggyaung. Each subdivision has three townships.

Administration.

The Bassein subdivision comprises the BASSEIN, THABAUNG, and NGAPUTAW townships; and the Ngathainggyaung subdivision comprises the NGATHAINGGYAUNG, KYONPYAW, and KYAUNGGON townships. Bassein is the head-quarters of the Bassein-Myaungmya Forest division, under a Deputy-Conservator of forests; and the Port Officer, Bassein, is collector of customs.

The District Judge exercises jurisdiction also over Henzada District, and the Bassein Small Cause Court judge is at the same time the judge of the Bassein township court. Two other judges relieve the township officers of the Ngathainggyaung, Kyaunggon, and Kyonpyaw townships of all civil work and have Small Cause Court jurisdiction locally; but in the remaining two townships the township officers are judges in their respective courts.

Criminal justice is administered in the usual way by the executive officers, District, subdivisional, and township. In addition, a special magistrate has recently been appointed to exercise criminal jurisdiction within the limits of the Ngathainggyaung and Bassein sub-

divisions. Sessions cases are tried by the Divisional Judge, Bassein Division.

Criminal work is heavy. Cattle-thefts are frequent, as also are robberies. Deterrent sentences have somewhat reduced the criminal use of the knife, but it is still unfortunately common. They have also had the effect of causing bullies to substitute for knives clubs, which in practice are nearly as dangerous. Gambling, with its lamentable predisposition to crime, is very prevalent in all parts of the District; and drunkenness cannot be called rare, although strenuous endeavours have been made in the past to reduce the facilities for drinking.

During the first two years (1852–3) of the British occupation, the Burmese tax on cattle was continued by the new rulers, and an impost of Rs. 10 was levied on every pair of buffaloes or bullocks used for ploughing; but no land tax was then demanded of the people. In 1854 surveyors were brought down from Arakan, the different circles were measured and a scale of revenue rates was fixed, though it is not precisely known on what principles they were calculated. These rates were systematically and methodically revised in 1861, crop-cuttings being made and local prices considered. A summary enhancement of 25 per cent. was made in 1879; but during this and the following years a detailed cadastral survey was undertaken, and regular settlement operations at once followed (1879–83) over the whole District, except the Ngaputaw township, the maximum rate per acre sanctioned being Rs. 3–4–0, and the minimum 12 annas. Portions of the Ngathainggyaung and Kyonpyaw townships were dealt with in 1883–4 and 1884–5, and the Ngaputaw township was regularly settled during the season 1901–2. The settlement of 1879–83 was revised between the years 1897–9, the result being an enhancement in the Bassein subdivision of 20 per cent. and in the Ngathainggyaung subdivision of 48 per cent. The maximum rate on rice land now in force is Rs. 4 and the minimum 12 annas, the average being Rs. 2–4–0. The maximum on mixed gardens is Rs. 3 per acre and the minimum Rs. 2–8–0, the average being Rs. 2–12–0. Betel-vines are taxed at Rs. 5 to Rs. 10 per acre, *dani* palms at Rs. 4 to Rs. 5, and miscellaneous cultivation at rates varying from Rs. 1–8–0 to Rs. 2–8–0.

The tax on salt is Rs. 2–3–6 per 100 viss (365 lb.) turned out. The system of raising the salt revenue by a tax on output was introduced in 1902 as an experiment, the arrangement previously in force having been to tax the cauldrons employed in boiling. After a brief strike the salt-makers acquiesced in this method of assessment. For the realization of the tax a staff of two inspectors and two assistant inspectors is employed.

The land revenue was 12·8 lakhs in 1900–1 and 13·8 lakhs in 1903–4. Comparative figures cannot be given for earlier years, owing to the

modifications that have taken place during the interval in the District boundaries, but it may be pointed out that the land revenue raised from an area larger than the present District was 7¾ lakhs in 1886. The total revenue from all sources was 35·9 lakhs in 1900–1 and 29·3 lakhs in 1903–4.

The District cess fund, administered by the Deputy-Commissioner for the provision of roads, &c., is maintained by a 10 per cent. levy on the land revenue. Its income in 1903–4 was Rs. 1,65,000, and the chief item of expenditure was Rs. 52,000 on public works. BASSEIN and NGATHAINGGYAUNG with Daunggyi are the only municipalities.

South of Cape Negrais, in 15° 42′ N. and 94° 17′ E., is the Alguada reef, on which a lighthouse was built in 1865. The structure is of granite, stands 144 feet high, and till 1902 exhibited a first-class catadioptric light visible at 20 miles. In 1902 a new light of 97,000 candle-power, visible 18 miles, was substituted for the old one.

The police are under a Superintendent, assisted by three Assistant Superintendents, in charge of the Ngathainggyaung and Bassein subdivisions and the town of Bassein respectively. The force consists of 3 inspectors, 2 chief head constables, 9 head constables, and 369 sergeants and constables, distributed in 20 police stations and outposts. The military police, who belong to the Toungoo battalion, number 199, and are posted as follows: 90 at Bassein, 34 at Ngathainggyaung, and the remainder at outlying township head-quarters.

The Central jail at Bassein has accommodation for 1,271 prisoners, and had an average daily population in 1903 of 730. The principal industry is mat-making, and the mats are taken as fast as they can be turned out for the shipping which visits Bassein. Furniture is also manufactured and is sold locally.

The percentage of literate persons in 1901 was 41 in the case of males and 7·5 in the case of females, or 25 for both sexes together. The number of pupils at school has increased from 8,630 in 1880–1 to 11,019 in 1890–1, and to 11,531 in 1903–4. In the last year the District contained 19 secondary, 218 primary, 6 special, and 230 elementary (private) schools, with 8,908 male and 2,623 female pupils. The principal educational institution is the Bassein municipal high school, in which instruction is given up to the ninth standard. The expenditure on education in 1903–4 amounted to Rs. 68,600, of which municipalities contributed Rs. 16,700, the cess fund Rs. 14,500, and the Government Rs. 10,400, while Rs. 16,300 was collected in fees and Rs. 10,700 in subscriptions.

There are two hospitals, with accommodation for 75 in-patients. In 1903 the number of cases treated was 24,853, including 1,389 in-patients, and 1,135 operations were performed. The income amounted to Rs. 20,300, the two municipalities contributing Rs. 14,500, private

subscriptions Rs. 2,300, and Local funds Rs. 2,500. A dispensary is about to be built at Kyaunggon.

Vaccination is compulsory only in the towns of Bassein and Ngathainggyaung, but progress in vaccination during recent years has been fair. In 1903-4 the number of persons successfully vaccinated was 16,320, representing 42 per 1,000 of population.

[J. Mackenna, *Settlement Reports* (1899-1900 and 1903); Major F. D. Maxwell, *Report on Inland and Sea Fisheries* (1904); B. Samuelson, *History of Embankments, Henzada Division* (1899).]

Bassein Subdivision.—Southern subdivision of Bassein District, Lower Burma, consisting of the townships of BASSEIN, THABAUNG, and NGAPUTAW.

Bassein Township.—Central township in the Bassein subdivision of Bassein District, Lower Burma, lying between 16° 35′ and 16° 59′ N. and 94° 30′ and 95° 3′ E., on both sides of the Bassein river, with an area of 563 square miles, which includes the area that till recently formed the township of Kangyidaung. The two townships together had a population of 94,301 in 1891 and 104,647 in 1901, half the increase being due to non-agriculturists. They contained one town, BASSEIN (population, 31,864), the head-quarters; and 518 villages. In 1903-4 the area under cultivation was 244 square miles, paying a land revenue of Rs. 3,67,000.

Bassein Town (*Pathein*).—Head-quarters of the Irrawaddy Division and of Bassein District, Lower Burma, situated in 16° 46′ N. and 94° 46′ E., on both banks of the Bassein river, 75 miles from the sea and 192 by rail from Rangoon. The population, including that of Bassein port, has increased steadily from 20,688 in 1872 to 28,147 in 1881, 30,177 in 1891, and 31,864 in 1901. It comprises Burmans, Karens, natives of India, and Chinamen, the first forming about two-thirds of the whole. The main portion of the town, consisting of the Athegyi, Talainggyaung, and Myothit quarters, which comprise the civil station and the bazar, lies on the left or eastern bank of the river, while the Thinbawgyin quarter on the western bank contains the principal mills. No trustworthy records of the early history of the town exist. One tradition puts its foundation in the thirteenth century, but old Talaing histories mention the thirty-two cities of Bassein (Pathein) much earlier. It is believed by some that the name is Talaing in origin; but the theory that Pathein has some connexion with *Pathi*, the Burmese name for a Musalmān, is not unreasonable, and it is indisputable that the town has long been inhabited by natives of India. Bassein has for centuries been a trading centre of some importance; and even if it be not identical with the ancient port of Cosmin, referred to by Cesare de' Federici and Gaspar Balbi, it is possible that Cosmin was within the limits of the existing District. The seizure of the town

by the Burmese troops in 1755 was one of the first incidents in the great Alaungpayā's earliest campaign against the Peguans in the south. The British were at that time established as traders in Bassein, and in 1757 the East India Company obtained a piece of land in the town by treaty with the victorious monarch of Ava, and secured free trading rights within the port. Two years later all the Europeans were massacred. The town was captured in 1824 during the first Burmese War and held till the Treaty of Yandabo, to be finally occupied in the second Burmese War in 1852.

The town has an area of nearly 12 square miles, the greater part of which is wooded. The principal streets run parallel to the river, with short connecting roads. The most important is the Strand road, following the stream, from which the other main thoroughfares branch off. The total length of roads within municipal limits is $37\frac{1}{2}$ miles. The Government offices and treasury are on the site of the old Zechaung fort, built after the province of Pegu was annexed. Around the fort lies the civil station. To the east is the Myothit quarter, through which run two main streets to a pagoda-covered plain, where all the local festivals are held. Close by the fort lie the other principal public buildings, post and telegraph offices, the Queen Victoria Memorial Library, the Roman Catholic and Anglican churches, and the extensive premises of the American Baptist Mission. There are public gardens and a Jubilee Memorial Park. The town contains a number of pagodas, among the most sacred being the Shwemoktaw within the limits of the Zechaung fort, the Tagaung, the Payāgyigon, the Mahābawdi, the Shwezigon, and the Wetlu.

Bassein is well served by the Irrawaddy Flotilla Company, the steamers of which run eastwards to Rangoon and Myaungmya, and northwards to Kyonpyaw and Ngathainggyaung, and, during the rains, to Henzada. The new railway gives connexion twice a day with Henzada (82 miles), and once a day with Letpadan and Rangoon (192 miles). The principal industry is rice-milling; eight important mills and some smaller concerns turn out what is known as 'cargo rice' (one-fifth husk). The manufacture of earthenware and timber-sawing are also important local industries.

Bassein is almost exclusively an exporting market. In 1903-4, 152,000 tons of 'cargo rice,' valued at 104 lakhs, left the port, consigned entirely to Europe. Imports from foreign countries are insignificant; those from Indian ports were valued in 1903-4 at Rs. 89,000, comprising gunnies, betel-nuts, and other Indian commodities. A steady river-borne trade is carried on with Rangoon, and commerce with the rest of Burma is likely to be stimulated by the new railway.

Bassein is the head-quarters of the Judge of the Bassein Division. The town was constituted a municipality in 1874. The municipal

income during the ten years ending 1901 averaged 1·2 lakhs, and the expenditure 1·1 lakhs. The figures for 1903–4 were 1·5 lakhs and 1·6 lakhs respectively. The chief sources of revenue in the latter year were house tax (Rs. 28,000), lighting rate (Rs. 10,000), conservancy (Rs. 11,500), and bazars (Rs. 56,000); while the chief objects of expenditure were lighting (Rs. 12,000), conservancy (Rs. 25,000), hospitals (Rs. 20,000), schools (Rs. 7,500), and roads (Rs. 31,000).

The port is administered through a Port fund, which derives its income from shipping dues, &c., and bears the cost of lighting and buoying the channels. The Port fund income in 1903–4 was Rs. 37,000. There is a municipal high school, teaching up to the ninth standard, in addition to missionary schools, and a Convent school for girls. The civil hospital has 63 beds.

Bassein River (*Ngawūn*).—A river of Burma, being the most westerly of the waterways through which the waters of the Irrawaddy find their way to the sea. It leaves the main channel a few miles above the town of Henzada, and flows in a south-westerly direction, past the towns of Lemyethna and Ngathainggyaung-Daunggyi, through the flat delta country, to Bassein, and thence, after a total course of 200 miles, into the Bay of Bengal immediately north of the Alguada Reef lighthouse, at about the 16th parallel of latitude. Bassein, famous in the past as a commercial emporium, and still important as a rice-shipping centre, lies on its left or eastern bank, at a point about 75 miles from where it flows into the sea. Ocean steamers can proceed up as far as Bassein, and the river is navigable by light-draught launches throughout its entire length during the rainy season.

Bassein Tāluka.—Western *tāluka* of Thāna District, Bombay, lying between 19° 16′ and 19° 35′ N. and 72° 44′ and 73° 1′ E., with an area of 223 square miles. It contains one town, BASSEIN (population, 10,702), the head-quarters, and 90 villages, including AGĀSHI (8,506). The population in 1901 was 80,251, compared with 76,110 in 1891. The density, 360 persons per square mile, largely exceeds the District average. Land revenue and cesses amounted in 1903–4 to 1·8 lakhs. The *tāluka* is formed of a portion of the mainland and of territory which was once the island of Bassein, but is now no longer an island, the narrow creek which divided it from the mainland having silted up. With the exception of two small hills, about 200 feet high, the surface of the island portion is flat, with a rich soil, yielding crops of rice, plantain, sugar-cane, and *pān*. On the mainland portion are the Tungār and Kāman hills, both over 2,000 feet in height, the last named, known as Bassein Peak or Kāmandrug, being 2,160 feet above sea-level. On the coast the climate is generally pleasant and equable; inland the heat is great, and in the rains much fever prevails.

Bassein Town (*Vasai*, that is, 'The Settlement').—Head-quarters of the *tāluka* of the same name in Thāna District, Bombay, situated in 19° 20′ N. and 72° 49′ E., about 5 miles from the Bassein Road station of the Bombay, Baroda, and Central India Railway, and 28 miles north of Bombay. Population (1901), 10,702. The town was constituted a municipality in 1864, the income in 1903–4 being Rs. 17,000. In that year the total value of the seaborne trade of Bassein was 13 lakhs, of which 5 lakhs represented imports and 8 lakhs exports. The town contains a dispensary, a Sub-Judge's court, an English middle school with 53 pupils, 8 vernacular schools for boys with 395 pupils, and one for girls with 71 pupils.

Bassein early attracted the notice of the Portuguese, as the river or strait separating the island from the mainland was a convenient rendezvous for shipping. In 1534 Bassein with the land in its neighbourhood was ceded to them by Bahādur Shāh, king of Gujarāt, and two years later the fort was built. For more than two centuries Bassein remained in the hands of the Portuguese, and during this time it rose to such prosperity that it came to be called the Court of the North, and its nobles were proverbial for their wealth and magnificence. With plentiful supplies of both timber and stone, Bassein was adorned with many noble buildings, including a cathedral, five convents, thirteen churches, and an asylum for orphans. The dwellings of the Hidalgos, or aristocracy, who alone were allowed to live within the city walls, are described (1675) as stately buildings, two storeys high, graced with covered balconies and large windows. Towards the end of the seventeenth century Bassein suffered severely from outbreaks of the plague, so deadly that in 1695 one-third of the population was swept away. Notwithstanding the decay of Portuguese power in the seventeenth century, Bassein, as late as 1720, would seem to have retained much of its prosperity. In that year the population was returned at 60,499, and the revenue a few years later (1729) at as much as $4\frac{1}{2}$ lakhs (Xer. 914,125). But the wealth of one city was unable to stay the advance of the Marāthā power. In 1739 Chimnāji Appa, a distinguished Marāthā general, at the head of a powerful army, appeared before Bassein. After a siege of three months, conducted on both sides with the greatest skill and courage, the garrison was forced to capitulate, and the town and district of Bassein passed into the hands of the Peshwā. Under the Marāthās, Bassein became the chief place in their territories between the Bānkot river and Damān; but they did not long keep possession of the city. In 1780, after a siege of twelve days, Bassein was captured by a British army under the command of General Goddard. By the Treaty of Sālbai (1782) it was restored to the Marāthās; and in 1818, on the overthrow of the last of the Peshwās, it was resumed by the English and incorporated with Thāna District. Here was concluded,

in 1802, the treaty by which the Peshwā agreed to maintain a British subsidiary force, thus virtually dissolving the Marāthā confederacy.

Of Old Bassein, the walls and ramparts remain in a state of good preservation. Within the enclosure, the ruins of the cathedral, of the Dominican convent, of the Jesuit Church of St. Paul, and of St. Anthony's Church, built as early as 1537, can still be identified.

[Dr. Da Cunha, *Antiquities of Bassein* (Bombay, 1876).]

Bastar.—Feudatory State in the Central Provinces, lying between 17° 46′ and 20° 14′ N. and 80° 15′ and 82° 15′ E., with an area of 13,062 square miles. It is situated in the south-eastern corner of the Province, and is bounded north by the Kānker State, south by the Godāvari District of Madras, west by Chānda District, Hyderābād State, and the Godāvari river, and east by the Jeypore estate in Vizagapatam. The chief town is Jagdalpur (population, 4,762), situated on the Indrāvati river, 136 miles south of Dhamtarī. The town is well laid out, with many handsome buildings and two fine tanks. The central and north-western portions of the State are very mountainous. To the east, for two-thirds of the total length from north to south, extends a plateau with an elevation of about 2,000 feet above sea-level, broken by small isolated ranges. The old and new capitals, Bastar and Jagdalpur, are situated towards the south of the plateau. The Indrāvati river, rising in the Kālāhandī State, enters Bastar on the plateau near Jagdalpur, and flows across the centre of the State from east to west, dividing it into two portions. On reaching the border it turns to the south, and forms the boundary of Bastar until it joins the Godāvari below Sironchā. At Chitrakot, where the Indrāvati leaves the Jagdalpur plateau, is a fine waterfall, 94 feet high, while the course of the river through the western hills exhibits some extremely picturesque scenery. The rivers next in importance are the Sābari, which divides Bastar from Jeypore on the east, and the Tel, which rises in the State and flows south-west to the Godāvari. The north-western portion of the State is covered by a mass of rugged hills known locally as the Abujmār, or country of the Māria Gonds. South of the Indrāvati the Bailādila ('bullock's hump') range runs through the centre of Bastar from north to south, its highest peaks being over 4,000 feet above sea-level, while smaller ranges extend in an easterly direction to the south of the plateau. The south-western tracts are low-lying, but are broken by ranges of sandstone hills, all of which run from north-west to south-east, each range ending in a steep declivity, a few miles south of which another parallel chain commences. Great boulders of vitrified sandstone strew the surface of these hills and gleam pink in the sun. The rock formation belongs partly to the gneissic and transition series, but is mainly the Lower Vindhyan, consisting of sandstones, shales, and limestones. The forests in the south-west contain a considerable

quantity of teak, with which is mixed *bījāsāl* (*Pterocarpus Marsupium*). Towards the north-east the teak rapidly disappears, and is replaced by *sāl* (*Shorea robusta*), which then becomes the principal timber tree, though much of the forest is of the nature of scrub. Frequently the undergrowth is replaced by patches of dense high grass, with scattered trees of *Diospyros* or ebony. The *Caryota urens* and the palmyra palm are found, the latter in the south and the former in the west and north. Cane brakes also occur by the hill streams. Bamboos, of which three species occur, are restricted entirely to the hills. The average annual rainfall exceeds 50 inches, and the climate on the plateau is pleasantly cool, 102° being the highest recorded.

The family of the Rājā is a very ancient one. It is stated to belong to the Rājputs of the Lunar race, and to have come originally from Warangal about the commencement of the fourteenth century, driven thence by the encroachments of the Muhammadan power. The traditional founder of the family, Annam Deo, is said to have established himself in Bastar under the protection of the goddess Danteshwarī, still the tutelary deity of the family and the State, who presented him with a sword which is held in veneration to the present day. The temple of the goddess at Dantewāra, at the confluence of the Sankanī and Dankanī rivers, was formerly the scene of an annual human sacrifice similar to that of the Khonds; and for many years after 1842 a guard was placed over the temple, and the Rājā held personally responsible for its discontinuance. Up to the time of the Marāthās Bastar occupied an almost independent position, but a tribute was imposed on it by the Nāgpur government in the eighteenth century. At this period the constant feuds between Bastar and the neighbouring State of Jeypore in Madras kept the country for many years in a state of anarchy. The chief object of contention was the Kotapad tract, which had originally belonged to Bastar, but had been ceded in return for assistance given by Jeypore to one of the Bastar chiefs during some family dissensions. The Central Provinces Administration finally made this over to Jeypore in 1863, on condition of payment of tribute of Rs. 3,000, two-thirds of which sum was remitted from the amount payable by Bastar. By virtue of this arrangement the tribute of Bastar was, until recently, reduced to a nominal amount. The late Rājā, Bhairon Deo, died in 1891 at the age of 52. In consequence of the continued misgovernment under which the State had suffered for some years, an officer selected by the Local Administration had been appointed as Dīwān in 1886. The late Rājā's infant son, Rudra Pratāp Deo, was recognized as his successor, and during his minority the State is being managed by Government. For six years two European officers held the office of Administrator, but this post was abolished in 1904 and a native officer was appointed as Superintendent. The young chief,

who was twenty years old in 1905, has been educated at the Rājkumār College, Raipur.

The population in 1901 was 306,501 persons, having decreased by 1 per cent. during the previous decade. The State contains 2,525 inhabited villages, and the density of population is only 23 persons per square mile. About two-thirds of the inhabitants are Gonds, and there are also a number of Halbās. The Gonds of Bastar are perhaps the wildest tribe in the Province. In some localities they still wear no clothing beyond a string of beads round the waist, while the approach of a stranger is frequently a signal for the whole village to take to the jungle. The language principally spoken is Halbī, a mixed dialect of Hindī, Oriyā, and Marāthī. Bhatrī, a dialect of Oriyā, is the speech of about 6 per cent. of the population, while the Māria Gonds have a language peculiar to themselves. More than 7 per cent. of the population speak Telugu. The Methodist Episcopal Church has a station at Jagdalpur.

The soil throughout the greater part of Bastar consists of a light clay with an admixture of sand, well adapted to the raising of rice, but requiring a good supply of water. There has been no cadastral survey except in 647 villages of the open country on the plateau, of which 486 have been regularly settled. No statistics of cultivation for the State as a whole are therefore available. The cultivation is, however, extremely sparse, as even in the regularly settled tract, which is the most advanced and populous portion of the State, only 25 per cent. of the total area available has been brought under the plough. Rice is by far the most important crop, but various small millets, pulses, and gram are also grown. There are a few irrigation tanks in the open country. About 9,800 square miles, or three-fourths of the whole area of the State, are forest or grass land but only about 5,000 square miles contain regular forest. The remainder either has been wholly denuded of forest growth by the system of shifting cultivation, or is covered only by valueless low scrub. The moist or *sāl* forests occur in the tract south of the Indrāvati and east of the Bailādila range, principally occupying the valleys and lower hills and the eastern plateau. The dry forests, in which the principal tree is teak, are distributed over the south, west, and north-west of the State, and also cover the higher slopes of the hills in the moist forest belt. The commercial value of the forests is determined at present rather by their proximity to a market and the comparative facilities of transport than by the intrinsic quality of the timber. The principal products are teak and other timbers, myrabolams, lac, wax, honey, hides and horns, tanning and dyeing barks, *tasar* silk cocoons, and other minor articles. Rich and extensive deposits of iron ore occur, especially in association with the transition rocks. Mica has been found in several places, the largest plates discovered near Jungāni from surface deposits measuring about 5 inches across, but being cloudy

and cracked. Gold in insignificant quantities is obtained by washing in the Indrāvati and other streams in the west. The State contains 121 miles of gravelled and 191 miles of embanked roads; the principal routes are those leading from Jagdalpur to Dhamtarī, to Jeypore, and to Chānda. The bulk of the trade goes to Dhamtarī station.

The State is in charge of a Political Agent for the Feudatory States, under the supervision of the Commissioner, Chhattīsgarh Division. For administrative purposes Bastar is divided into five *tahsīls*, each in charge of a *tahsīldār*. The Superintendent of the State is at present an Extra-Assistant Commissioner and has two Assistants with magisterial powers. The State also employs European Forest and Medical officers. There are seven subordinate *zamīndāri* estates covering 4,189 square miles, situated mainly to the south of the Indrāvati. The total revenue in 1904 was 2·76 lakhs, the main items being land (Rs. 1,15,000), including cesses, arrears, and miscellaneous receipts, forests (Rs. 65,000), and excise (Rs. 70,000). A revised assessment of land revenue has recently been sanctioned. The net demand for land revenue in 1904 was only Rs. 83,000, a considerable proportion being 'assigned.' A cadastral survey has been effected in 647 villages of the Jagdalpur *tahsīl*, and in most of these a regular settlement based on soil classification has been carried out. The remaining area is summarily settled, the rates being fixed on the seed required for each holding, or on the number of ploughs in the possession of the cultivators. The incidence of the land revenue per cultivated acre in the regularly settled tract is 5 annas 1 pie. The total expenditure in 1904 was 2·52 lakhs, the principal heads being Government tribute (Rs. 15,600), allowances to the ruling family (Rs. 24,000), administration (Rs. 32,000), forests (Rs. 15,000), excise (Rs. 15,000), land revenue settlement (Rs. 7,700), and public works (Rs. 37,000). The tribute is liable to revision. Since 1893 the State has expended 5·68 lakhs on public works, under the supervision of the Engineer of the Chhattīsgarh States division. The works carried out include, besides the roads already mentioned, residences for the chief and the Administrator and for the *zamīndār* of Bhopālpatnam, office buildings at Jagdalpur and the head-quarters of *tahsīls*, and a school, dispensary, and *sarai* at Jagdalpur. The State maintains 51 schools, including an English middle school at Jagdalpur, 4 vernacular middle schools, and a girls' school, with a total of about 3,000 pupils. The expenditure on education in 1904 was Rs. 11,000. Only 1,997 persons were returned as able to read and write in 1901, the proportion of literate males being 1·2 per cent. Dispensaries have been established at Jagdalpur, Antāgarh, Kondegaon, Bhopālpatnam, Kondā, and Bījāpur, at which 59,000 persons were treated in 1904, and Rs. 12,000 was expended on medical relief.

Bastī District.—North-western District of the Gorakhpur Division,

United Provinces, lying north of the Gogra river, between 26° 25′ and 27° 30′ N. and between 82° 13′ and 83° 14′ E., with an area of 2,792 square miles. It is bounded on the north by Nepāl territory; on the east by Gorakhpur District; on the south by the Gogra, which divides it from Fyzābād; and on the west by Gondā. Bastī lies entirely in the submontane plain, with no natural elevations to diversify its surface. It is traversed by a considerable number of small streams, and the north-west corner resembles the rice swamps of the Nepāl *tarai*. The whole of the drainage ultimately reaches the Gogra, but not within Bastī District. The northern portion, extending 14 to 20 miles from the Nepāl frontier to the Rāptī, has a much greater rainfall than the rest. Many small streams rushing down from the lower hills or rising in the Nepāl *tarai* water this tract, chief among them being the Būrhī or 'old' Rāptī, the Bānganga, and the Jamwār. South of the Rāptī the central plateau of the District extends almost to the Gogra, and is drained chiefly by the Kuwānā, which has a course parallel to the Rāptī and Gogra. The Katnehiā, Rawai, and Manwār are the principal tributaries of the Kuwānā. Another small river, the Amī, crosses the upland between the Rāptī and Kuwānā. There are many natural lakes or depressions, often formed in the old beds of rivers, the largest being the BAKHIRA, Chandū, Pathrā, Chaur, and Jasoiā Tāls.

Physical aspects.

As is usual in the submontane tracts, *kankar* or nodular limestone is scarce. No other rock of any kind is found in the alluvium of which the District is composed.

The flora resembles that of the submontane tracts. Forests formerly existed, but have been cut down. The District is, however, well provided with clumps of mango, bamboo, and *mahuā* (*Bassia latifolia*).

Wild hog, *nīlgai*, wolves, and jackals are common. Spotted deer are occasionally seen. During the cold season wild-fowl and snipe abound in the numerous lakes and swamps. Fish are plentiful, and are much used for food. Snakes and crocodiles are also common.

The climate of Bastī is distinctly milder than that of the more western Districts, and extremes of heat and cold are less marked. It is, however, not specially unhealthy, except at the close of the rains.

The annual rainfall averages 49 inches, ranging from 46 in the south-west to 52 towards the north. Near the Nepāl frontier the fall is still heavier. Large variations occur from year to year. In 1877 only 24 inches were received, compared with 76 in 1894.

History.

Materials for the history of the tract included in Bastī District are unusually scarce. It possibly formed part of the great kingdom of KOSALA. For some years Kapilavastu, the birthplace of Gautama Buddha, was believed to have been situated at Bhuilā, 15 miles north-west of Bastī town; but this

identification has been abandoned in favour of a site just outside the north-east angle of the District, in Nepāl. The northern part had certainly relapsed into jungle by the fifth century A. D., when it was visited by Fa Hian, though the ruins of earlier buildings were numerous. The traditions of the Rājput clans who now hold the District point to the conclusion that they began to enter it late in the thirteenth century, displacing the Bhars and the Domkatārs; but little reliance can be placed on them. A number of petty Rājās held the country and fought with each other. In Akbar's reign the Muhammadans penetrated the District after taking Gorakhpur, and maintained a garrison at Maghar; and Bastī was included in the *Sūbah* of Oudh. About 1610 the Muslims were expelled; but they returned in force in 1680, and opened up the country. Most of the District was included in the Gorakhpur *sarkār*, and its later history is that of GORAKHPUR DISTRICT, from which it was only separated in 1865, though ceded to the British by the Nawāb Wazīr of Oudh in 1801.

Many ancient mounds are found in the District, but few have been excavated. Bhuilā, already referred to, was examined by General Cunningham and his assistant[1]. A *stūpa* at Piprahwa in the north of the District was recently excavated, and yielded an interesting find of relics in an inscribed casket[2]. Gupta coins are occasionally found in various localities. The only Muhammadan building of interest is the shrine of Kabīr at MAGHAR.

Population.

Bastī contains 4 towns and 6,903 villages. Population is increasing steadily. The numbers at the last four enumerations were as follows: (1872) 1,473,029, (1881) 1,630,6[illegible], (1891) 1,785,844, and (1901) 1,846,153. There are five *tahsīls*—DOMARIĀGANJ, BĀNSĪ, HARAIYĀ, BASTĪ, and KHALĪLĀBĀD—the head-quarters of each being at a place of the same name. BASTĪ, the District head-quarters, is the largest town. The following table gives the chief statistics of population in 1901:—

Tahsīl.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Domariāganj	593	1	1,111	322,321	544	+ 2·9	9,470
Bānsī	621	1	1,343	402,277	648	+ 10·9	9,938
Haraiyā	478	...	1,461	333,801	698	− 5·1	9,395
Bastī	536	1	1,600	393,079	733	+ 4·0	12,808
Khalīlābād	564	1	1,388	394,675	700	+ 3·7	10,393
District total	2,792	4	6,903	1,846,153	661	+ 3·4	52,004

[1] *Archaeological Survey Reports*, vol. xii, p. 108.

[2] *Journal, Royal Asiatic Society*, 1898, p. 573.

Hindus form nearly 84 per cent. of the total and Muhammadans 16 per cent. The District is densely populated, and supplies a considerable number of emigrants to the West Indies and to Eastern Bengal and Assam. During the last decade it probably gained by immigration from the more distressed Districts south of the Gogra. Almost the whole population speak Bihārī.

The most numerous Hindu castes are: Chamārs (leather-workers and cultivators), 278,000; Brāhmans, 195,000; Ahīrs (graziers and cultivators), 185,000; Kurmīs (agriculturists), 148,000; Baniās, 52,000; Rājputs, 50,000; Kahārs (domestic servants and cultivators), 48,000; and Kewats (cultivators), 40,000. The aboriginal Bhars, who once held the land, are now depressed and number only 50,000. Among Musalmāns may be mentioned Shaikhs, 50,000; Julāhās (weavers), 43,000; Pathāns, 34,000; and Rājputs, 34,000. Agriculture supports 66 per cent. of the total population, and general labour 9 per cent. Brāhmans and Rājputs or Chhattrīs hold about two-thirds of the land, and Brāhmans occupy a larger area than any other caste. Rājputs, Ahīrs, Kurmīs, and Chamārs are also large cultivators, while the Koirīs are noted for their skill.

There were only 53 native Christians in 1901, of whom 24 belonged to the Anglican communion. The Church Missionary Society has a high school at Bastī, and there is also a Zanāna mission.

Agriculture.

The climate and soil are suitable for the growth of nearly all the more valuable products, and the comparatively heavy rainfall is especially favourable to rice. Wheat and poppy do best in the lighter loams, and are accordingly grown between the Rāptī and Gogra. North of the Rāptī late rice is the principal crop. In the inferior light soils barley takes the place of wheat, and *kodon* of rice. There is a tract of peculiar calcareous soil, known as *bhāt*, along both banks of the Rāptī, which is very retentive of moisture and produces good crops without irrigation. In the bed of the Gogra strips of alluvial soil are liable to flooding in the rains, but are cultivated for the spring harvest.

About one-third of the District is included in *zamīndāri mahāls*, and two-thirds in *pattīdāri*, the area of *bhaiyāchārā mahāls* being very small. A great many under-proprietors are found, called *birtiās*. One class of *birt* is peculiar to the District, having been originally granted to a military colony of Rājputs or Chhattrīs who were settled on the border as guardians against invasion. The main agricultural statistics for 1903–4 are given in the table on next page, in square miles.

Rice is the crop most largely grown, covering 1,000 square miles, or 50 per cent. of the net cultivated area, in 1903–4. The other food-crops of importance are wheat (377 square miles), peas and *masūr* (325), gram (237), barley (208), and *arhar* (185). The most valuable

crops are, however, poppy, grown on 33 square miles, and sugar-cane, grown on 68. Oilseeds are also important, covering 136 square miles.

Tahsīl.	Total.	Cultivated.	Irrigated.	Cultivable waste.
Domariāganj	593	427	142	80
Bānsī	621	463	144	64
Haraiyā	478	338	211	75
Bastī	536	387	238	70
Khalīlābād	564	394	234	76
Total	2,792	2,009	969	365

At the time of its cession to the British in 1801, the District was in a very depressed condition. A settled government soon gave an impetus to cultivation, and led to the introduction of the more valuable crops, sugar-cane and poppy. During the thirty years preceding the last settlement the cultivated area increased by 13 per cent., or, including the jungle grants in the north of the District, by 20 per cent. In the last fifteen years there has been a further small increase of about 2 per cent. and a still larger rise in the area double cropped. There has been no appreciable change in the staples grown. Advances are taken freely under the Agriculturists' Loans Act, and amounted to a total of 1·2 lakhs during the ten years ending 1901, of which Rs. 51,000 was lent in the famine year 1896–7. From Rs. 2,000 to Rs. 3,000 has been advanced annually since 1900.

The cattle of the District are generally inferior, but those bred in the Mahūlī *pargana* are a little above the average. Buffaloes are largely kept for milk. Ponies are used a good deal both for riding and as pack-animals, but are of a very poor stamp. Sheep and goats are chiefly kept for the supply of wool, skins, and manure.

In 1903–4, 323 square miles were irrigated from wells, 435 from tanks and swamps, and 211 from other sources. Wells are chiefly important in the southern half of the upland area between the Gogra and Rāptī, and their use decreases as the latter river is approached. North of the Rāptī they are hardly used at all. Water is invariably raised from them by the lever or by two pots slung on a wheel. The natural ponds and swamps, which are so numerous in the District, are everywhere used for irrigation, in addition to the small tanks which have been excavated. The swing-basket is used to raise water from these sources of supply. The larger rivers are not used at all for irrigation, as their beds lie too low; but the smaller streams are held up by small temporary earthen dams, and their water is turned into the rice-fields as required. In the north-east of the District two European grantees have constructed a series of works which effectually protect about 52,000 acres of rice land. The valleys of several

small rivers have been dammed with earthen embankments provided with weirs and gates, so that sudden floods can be allowed to escape. Water is conducted by 82 miles of main canals and about 250 miles of distributaries to all parts of the estates. No water rates are charged, but the cultivators voluntarily keep the works in repair. This is the only considerable system of private canals in the United Provinces, and has been imitated with success by a native *zamīndār*, who owns an estate close by. Except in the case of rice-fields, irrigation is chiefly required for the spring harvest. Water is usually sprinkled over the land with a wooden shovel; but poppy and garden crops are flooded.

The chief mineral product is *kankar* or nodular limestone, which is used for metalling roads and making lime. It is, however, scarce and of poor quality, and lacustrine shells are also used for making lime. Saltpetre is manufactured from the saline efflorescence called *reh*.

Trade and communications.

The District is exceptionally poor in industrial enterprise. Sugar-refining alone is of some importance. Agricultural implements, coarse cotton cloth, and the ordinary utensils for household use are made locally. Brass vessels are made at Bakhirā, but these and also cloth are largely imported. A little chintz is made at Nagar and Bahādurpur.

The trade of the District with other parts of India is chiefly in agricultural produce. Rice, sugar, opium, saltpetre, oilseeds, and hides are exported; and cloth, metals, salt, cotton, and tobacco are imported. The through trade with Nepāl is also of importance. Iron, drugs, spices, *ghī*, fibres, and rice come from Nepāl; and raw sugar, salt, hardware, tobacco, coco-nuts, cotton yarn, and cloth are sent to that State. USKĀ and MEHNDĀWAL are the chief marts for the traffic of the north of the District with Nepāl. The commerce of the south is partly carried by the Gogra; but the railway has largely replaced the river, as is usual where the two means of carriage compete. Cawnpore in the west and Calcutta in the east attract most of the trade of the District.

The Bengal and North-Western Railway main line crosses Bastī from east to west, and Uskā in the north-east corner is at present the terminus of a branch from Gorakhpur. It is, however, being connected with Tulsīpur in Gondā District by a line which will pass very close to the border of Nepāl and may be expected to increase the traffic with that State. Communications by road are not good. Out of 682 miles, only 113 are metalled. The metalled roads are in charge of the Public Works department; but the cost of all but 62 miles is charged to Local funds. The main lines are those from Gorakhpur to Fyzābād, from Bastī town to Bānsī, and from Uskā towards the Nepāl frontier. Bridges are still required on most of the unmetalled roads, which cross

many small streams by fords and ferries. Avenues of trees are maintained on 127 miles of road.

Famine.

Mention of the famines experienced in Bastī District up to 1865, when it became a separate Collectorate, will be found in the article on GORAKHPUR DISTRICT. In 1868–9 only slight scarcity was felt. The rains of 1873 were light and the following spring crop could not be sown. Relief works were opened, and in May, 1874, the daily muster rose to 127,000; but it was held afterwards that relief had been too lavish. A similar failure of the rains in 1877 caused distress in 1878, and relief works were again required. In 1896–7 distress was felt; but this was due to the pressure of high prices on the labouring classes rather than to a failure of the crops. Relief works were opened, but the proportion of the population who came to them was small.

Administration.

The Collector is usually assisted by five Deputy-Collectors recruited in India, and a *tahsīldār* is stationed at the headquarters of each *tahsīl.*

There are two District Munsifs, and the system of Village Munsifs was introduced in 1902. Bastī is comprised within the Civil and Sessions Judgeship of Gorakhpur; but sessions cases are tried by the Judge of Jaunpur, who is a Joint Sessions Judge for this purpose. Crime is on the whole light, and the District is not noted for any particular form. Infanticide was formerly suspected, but no villages are now proclaimed under the Act.

Bastī was acquired by cession in 1801, but up to 1865 it formed part of Gorakhpur District. The quarrels of the Rājās and the failure of the Oudh government to introduce any system of administration had reduced the country to a miserable state. The early settlements, based chiefly on the previous collections, were for short periods, and at first were made with the Rājās or large proprietors at lump sums for whole estates. In 1838–9 the first regular settlement was made under Regulation IX of 1833. It was based on a survey, and it recognized the *birtiās* or under-proprietors, from whom engagements were taken direct for the first time. The revenue fixed was 9·7 lakhs, which was more than double the former revenue. This settlement was revised between 1859 and 1865 by various officers working on different methods, but principally relying on estimates of the rental 'assets,' and the demand was increased to 12·8 lakhs. The latest revision was made between 1883 and 1890, and Bastī was one of the first Districts to be resettled on the basis of the actual rents paid. The revenue demand amounted to 19·4 lakhs, or 46 per cent. of the corrected rent-roll, the incidence per acre being Rs. 1–1, varying from R. 0·8 to Rs. 1·7.

Collections on account of land revenue and revenue from all sources have been, in thousands of rupees:—

	1880–1.	1890–1.	1900–1.	1903–4.
Land revenue . .	13,14	18,93	20,20	19,55
Total revenue . .	14,53	24,59	26,27	26,40

There are no municipalities, but three towns are administered under Act XX of 1856. Beyond the limits of these, local affairs are administered by the District board, which in 1903–4 had an income of 1·6 lakhs, chiefly derived from local rates. The expenditure was also 1·6 lakhs, including Rs. 92,000 spent on roads and buildings.

The District Superintendent of police is assisted by 4 inspectors, and has a force of 97 subordinate officers and 378 constables, besides 52 town police and 3,201 rural and road police. There are 26 police stations. The District jail had a daily average of 247 prisoners in 1903.

The District contains few towns, and the proportion of literate persons is not very high; only 2·8 per cent. (5·5 males and 0·1 females) could read and write in 1901. Hindus (3 per cent.) were better educated than Musalmāns (2 per cent.). The number of public schools increased from 154 with 5,037 pupils in 1880–1 to 290 with 11,286 pupils in 1900–1. In 1903–4 there were 308 such schools with 16,844 pupils, including 426 girls, besides 36 private schools with 459 pupils. The primary classes contained all but 1,400 pupils in both public and private schools. Two schools are managed by Government and 135 by the District board. Out of a total expenditure on education of Rs. 46,000, Local funds supplied Rs. 42,000, and the receipts from fees were only Rs. 3,800.

There are 8 hospitals and dispensaries, with accommodation for 51 in-patients. In 1903 the number of cases treated was 90,000, including 417 in-patients, and 3,562 operations were performed. The expenditure in the same year amounted to Rs. 26,000, chiefly met from Local funds.

About 50,000 persons were successfully vaccinated in 1903–4, giving a proportion of 27 per 1,000 of population, which is below the Provincial average.

[*District Gazetteer* (1881, under revision); J. Hooper, *Settlement Report* (1891).]

Bastī Tahsīl.—Head-quarters *tahsīl* of Bastī District, United Provinces, comprising the *parganas* of Nagar (East), Bastī (East), Maghar (West), and Mahūlī (West), and lying between 26° 33′ and 27° 6′ N. and 82° 37′ and 82° 59′ E., with an area of 536 square miles. Population increased from 377,935 in 1891 to 393,079 in 1901. There are 1,600 villages and only one town, Bastī (population, 14,761), the District and *tahsīl* head-quarters. The demand for land revenue in 1903–4

was Rs. 4,22,000, and for cesses Rs. 78,000. The density of population, 733 persons per square mile, is the highest in the District. The *tahsīl* stretches north from the Gogra in the upland portion of the District, and is crossed by the Kuwānā and a number of smaller streams. The area under cultivation in 1903-4 was 387 square miles, of which 238 were irrigated. Wells supply more than half the irrigated area, and tanks and swamps are a more important source than rivers.

Bastī Town.—Head-quarters of Bastī District and *tahsīl*, United Provinces, situated in 26° 47′ N. and 82° 43′ E., on the Bengal and North-Western Railway and on the Gorakhpur-Fyzābād road. Population (1901), 14,761. The town became the residence of a local Rājā in the seventeenth century, but was never of importance. For some time before the Mutiny it was the site of an opium storehouse and treasury, and in 1865 it became the head-quarters of a new District. Bastī consists of the old village, in which the Rājā's fort is situated, a new bazar which has sprung up on the road south of this, and the civil station. It is the head-quarters of the Church Missionary Society in the District, which maintains the high school; and besides the usual offices there is a dispensary. The town is administered under Act XX of 1856, with an income of about Rs. 4,000. There is little trade. Two schools for boys contain 330 pupils, and a small girls' school has an attendance of 15.

Baswa.—Head-quarters of the *tahsīl* of the same name in the Daosa *nizāmat* of the State of Jaipur, Rājputāna, situated in 27° 9′ N. and 76° 36′ E., on the Rājputāna-Mālwā Railway, 63 miles east-by-north-east of Jaipur city and 128 miles south of Delhi. Population (1901), 5,908. The mud walls which surround the town are breached in several places, and the small fort is in a dilapidated condition. The town possesses a post office, and three schools attended by about 160 boys. A fair, held yearly in April near the railway station, is visited by 7,000 to 8,000 Muhammadans. The town is locally famous for its red and black terra-cotta pottery; and in its neighbourhood are some very old palaces, a reservoir, and a temple attributed to a Rājā named Har Chand.

Batāla Tahsīl.—*Tahsīl* of Gurdāspur District, Punjab, lying between 31° 35′ and 32° 4′ N. and 74° 52′ and 75° 34′ E., with an area of 476 square miles. It stretches south-east and north-west between the Rāvi and the Beās, and consists of strips of alluvial country along these two rivers, with a fertile plateau between them irrigated by the Bāri Doāb Canal and the Kiran (District) Canal. The population in 1901 was 305,867, compared with 300,644 in 1891. The head-quarters are at the town of BATĀLA (population, 27,365). It also contains the towns of SRĪGOBINDPUR (4,380) and DERA NĀNAK (5,118); and 478

villages. The land revenue and cesses amounted in 1903-4 to Rs. 5,51,000.

Batāla Town.—Head-quarters of the *tahsīl* of the same name in Gurdāspur District, Punjab, situated in 30° 49′ N. and 75° 12′ E., on the Amritsar-Pathānkot branch of the North-Western Railway, 20 miles from Gurdāspur town. It is distant by rail 1,272 miles from Calcutta, 1,303 from Bombay, and 859 from Karāchi. Population (1901), 27,365, including 17,876 Muhammadans and 9,071 Hindus. The town was founded about 1465, during the reign of Bahlol Lodī, by Rai Rām Deo, a Bhatti Rājput, on a piece of land granted by Tātār Khān, governor of Lahore. Akbar gave it in *jāgīr* to Shamsher Khān, his foster-brother, who greatly improved and beautified the place, and outside it built the magnificent tank, still in perfect repair. Under the Sikh commonwealth, Batāla was held first by the Rāmgarhias, and after their expulsion by the Kanhayā confederacy. On their return from exile the Rāmgarhia chiefs recovered the town, which they retained till the rise of Ranjīt Singh. After the annexation of the Punjab, Batāla was made the head-quarters of a District, subsequently transferred to Gurdāspur. The principal objects of antiquarian interest are the tank above mentioned, the massive tomb of Shamsher Khān, and a handsome building known as the Anārkali, erected by Sher Singh, son of Ranjīt Singh, who held Batāla in *jāgīr*. This is now occupied by the Baring high school. The central portion of the town is raised to some height above the surrounding level, and has well-paved streets, good drainage, and substantial brick-built houses; but its suburbs consist of squalid mud huts, occupied by Gūjar shepherds and low-caste weavers, where filth accumulates to the great detriment of the general health.

The municipality was created in 1867. The income during the ten years ending 1902-3 averaged Rs. 34,900, and the expenditure Rs. 34,100. The income in 1903-4 was Rs. 37,900, chiefly from octroi; and the expenditure was Rs. 38,500. The town has considerable manufactures, which include cotton, silk, and leathern goods. *Sūsī*, a striped mixture of silk and cotton, used to be very largely made, but the manufacture has now been superseded by that of chintz. Carpets and woollen blankets are also woven. Soap is manufactured, and a good deal of cotton is ginned. Batāla has a large trade in grain and sugar, which, however, are bought and sold at a mart outside municipal limits. Its chief educational institutions are the Baring Anglo-vernacular high school for Christian boys and the A.L.O.E. Anglo-vernacular high school, both maintained by the Church Missionary Society, and two Anglo-vernacular middle schools, one maintained by the municipal committee and the other unaided. The municipality, aided by the District board, also supports two dispensaries.

Batesar.—Village in the Bāh *tahsīl* of Agra District, United Pro-

vinces, situated in 26° 56′ N. and 78° 33′ E., at a bend of the Jumna, 41 miles south-east of Agra city. Population (1901), 2,189. The place is celebrated for its fair, the largest in the District. Originally this was a religious festival, the great day being on the full moon of Kārtik (October–November), but it is now also celebrated as a cattle fair. Horses, cattle, camels, and even elephants are exhibited, and remounts for the native army and police are often bought here. For convenience, a branch Government treasury is opened at the time of the fair. In 1904 the stock shown included 35,000 horses and ponies, 18,000 camels, 10,000 mules and donkeys, and 79,000 head of cattle; and Rs. 13,000 was collected on account of bridge tolls, registration fees, and shop rents.

Baud State.—The most westerly of the Tributary States of Orissa, Bengal, lying between 20° 13′ and 20° 53′ N. and 83° 35′ and 84° 48′ E., with an area of 1,264 square miles. It is bounded on the north by the Mahānadī river, separating it from Sonpur and Athmallik; on the east by Daspallā; on the south by the Khondmāls; and on the west by Patnā and Sonpur, from which it is separated by the Tel river.

The State is one of the oldest in Orissa, and is said to have been originally founded by a Brāhman, but he being childless adopted a nephew of the Rājā of Keonjhar, who is regarded as the founder of the present family. The list of chiefs contains forty-five names, who are said to have ruled for nearly 1,400 years. The State was formerly of considerable extent, but from time to time portions were wrested from it by more powerful neighbours, and Athmallik, which was for centuries part of Baud and acknowledged its suzerainty, is now quite separate. The large tract known as the KHONDMĀLS, with an area of about 800 square miles, which originally belonged to Baud, was made over to the British Government in 1835 by the chief, who was unable to control the Khonds or to put a stop to their human sacrifices; and it was in 1891 formed into a subdivision of Angul District. The State as now constituted yields an estimated revenue of Rs. 64,000, and pays to the British Government a tribute of Rs. 800. The population decreased from 89,551 in 1891 to 88,250 in 1901. The falling off is due, as in the case of the Khondmāls, partly to the prevalence of epidemic disease and the general unhealthiness of the climate, and partly to the emigration of many migratory Khonds during the scarcity which occurred in 1900. The number of villages is 1,070, and the density is 70 persons per square mile. Of the total population, 87,988 claim to be Hindus, but many of them are really Hinduized aborigines. The most numerous castes are the Gaurs (23,000), Khonds (15,000), Pāns (9,000), Sudhās (7,000), and Chāsas (4,000). The Khonds (*see* KHONDMĀLS) are giving up their primitive customs and beliefs, and endeavouring to amalgamate with their Hindu neighbours. The land is fertile and is

well provided with wells, reservoirs, and other sources of irrigation. The Mahānadī, which forms the northern boundary of the State, and the Tel, which borders it on its west, afford excellent facilities for water-carriage; and rice, oilseeds, and such cereals as are produced in the State are exported in large quantities by boat down the Mahānadī. The State maintains a charitable dispensary, a middle English school, and 4 upper primary and 16 lower primary schools.

Baud Village.—Chief place of the Orissa Tributary State of the same name, Bengal, situated in 20° 50′ N. and 84° 23′ E., on the right bank of the Mahānadī. Population (1901), 3,292. The village contains several ancient temples. The most important are the Nabagraha temple, built of red sandstone, very profusely carved, and probably dating from the ninth century; and three temples of Siva with elaborately carved interiors.

[*Archaeological Survey Reports*, vol. xiii, pp. 118–9.]

Baugh.—Archaeological site in Central India. *See* BĀGH.

Bauliāri.—Seaport in Ahmadābād District, Bombay. *See* BAVLIARI.

Baura.—Village in the head-quarters subdivision of Jalpaigurī District, Eastern Bengal and Assam, situated in 26° 15′ N. and 89° 5′ E., on a small tributary of the Tīsta. Baura can be reached by boats of 30 or 40 tons burden all the year round, and is the principal river mart in the District, whence large quantities of tobacco, mustard seed, jute, cotton, and hides are exported by water to Sirājganj and Dacca. Baura is also served by the Bengal-Duārs Railway. The population in 1901 is not known. It was included for census purposes in *mauza* Sibrām, the population of which was 5,157.

Bausi.—Village in the Bānka subdivision of Bhāgalpur District, Bengal, situated in 24° 48′ N. and 87° 2′ E., near the base of MANDĀRGIRI. Population (1901), 649. The numerous buildings, tanks, large wells, and stone figures found for a mile or two round the base of the hill show that a great city must once have stood here. The people of the neighbourhood say that it contained 52 markets, 53 streets, and 88 tanks. According to local tradition, a large building, the ruins of which still exist, and the walls of which contain an immense number of small holes, evidently intended to hold *chirāgs*, or small native lamps, was formerly illuminated on the night of the Dewāli festival by a hundred thousand of these lights, each householder being allowed to supply only one. How or when the city fell into ruin is not known, though popular tradition ascribes its destruction to Kāla Pāhār. A Sanskrit inscription on a stone triumphal arch seems to show that the city was in existence less than 300 years ago. After the destruction of the temple of Madhusūdan on Mandārgiri hill, the image of the god was brought to Bausi, where it now remains. Once a year, on the Paus Sankrānti day, the image is carried from Bausi to the foot of the hill,

and is swung on the triumphal arch. About 50,000 pilgrims assemble from all parts of the country, in order to bathe in the sacred tank at the foot of the hill, and a fair is held which lasts for fifteen days.

Bāvda (*Bāvada*).—Petty chiefship feudatory to the Kolhāpur State, within the Political Agency of Kolhāpur and the Southern Marāthā Country, Bombay, lying between 16° 25′ and 16° 44′ N. and 73° 52′ and 74° 8′ E. *See* KOLHĀPUR STATE.

Bāvisi Thāna.—Petty State in MAHĪ KĀNTHA, Bombay.

Bavliari.—Seaport on the creek of the same name, in the Dhandhuka *tāluka* of Ahmadābād District, Bombay, situated in 22° 4′ N. and 72° 7′ E. Population (1901), 980. In 1903–4 the imports and exports were each valued at 8 lakhs, the chief articles of trade being cotton, grain, *ghī*, piece-goods, coco-nuts, oil, molasses, and timber.

Baw.—One of the Southern Shan States, Burma. *See* MAW.

Bāwal Nizāmat.—A *nizāmat* or administrative district of the Nābha State, Punjab, lying between 28° and 28° 25′ N. and 76° 15′ and 76° 45′ E., with an area of 281 miles. The population in 1901 was 71,430, compared with 68,147 in 1891. It contains one town, BĀWAL (population, 5,739), the head-quarters; and 164 villages. The land revenue and cesses amounted in 1903–4 to 2·2 lakhs. The *nizāmat* consists of three separate pieces of territory: Bāwal proper, Kanti-Kalīna, and the isolated village of Mukandpur Basi. Bāwal proper lies south of Rewāri, a *tahsīl* of the British District of Gurgaon, and forms a wedge jutting southwards into the Alwar and Jaipur States of Rājputāna. It is separated by the Rewāri *tahsīl* from the *pargana* of Kanti-Kalīna, 21 miles long by 9½ broad, lying parallel to the Nārnaul *nizāmat* of the Patiāla State. The whole *nizāmat* is geographically a part of the Rājputāna desert, being an arid, rainless tract, singularly destitute of trees, streams, and tanks, though the Sāwi, a seasonal torrent which rises in the Jaipur hills, passes through the southern edge of the Bāwal *pargana*. It is divided into the two police circles of Bāwal Kānti and Chauki Deb-Kalān.

Bāwal Town.—Head-quarters of the *nizāmat* of the same name in Nābha State, Punjab, situated in 28° 4′ N. and 76° 36′ E., 10 miles south of Rewāri. Population (1901), 5,739. Founded in 1205 by Rao Miswāla, Chauhān Rājput of Alwar, it eventually came under the Nawābs of Jhajjar and then passed to Nābha. It has since greatly developed, though its trade suffers from competition with Rewāri. It contains several old buildings, the most interesting of which is a mosque built in 1560 and still in good repair. It possesses a police station, an Anglo-vernacular middle school, and a dispensary.

Bāwa Malang.—Hill fortress in Thāna District, Bombay. *See* MALANGGARH.

Bawlake.—One of the KARENNI States, Burma.

Bawnin.—Burmese name for one of the Southern Shan States, Burma. *See* Mawnang.

Bawzaing.—Burmese name for one of the Southern Shan States, Burma. *See* Mawson.

Baxa.—Military cantonment in Jalpaigurī District, Eastern Bengal and Assam. *See* Buxa.

Baxār.—Subdivision and town in Shāhābād District, Bengal. *See* Buxar.

Bayānā.—Head-quarters of a *tahsīl* of the same name in the State of Bharatpur, Rājputāna, situated in 26° 55′ N. and 77° 18′ E., close to the left bank of the Gambhīr river, a tributary of the Bāngangā, and about 25 miles south-by-south-west of Bharatpur city. Population (1901), 6,867. The town contains a vernacular school, attended by 150 boys, and a hospital. The ancient name of the place was Srīpathā. Two old Hindu temples were, till recently, used by the Musalmāns as mosques, and each has a Sanskrit inscription. One of them, bearing date A.D. 1043, mentions a Jādon Rājā, Bijai Pāl, to whom is unanimously attributed the building of the well-known fort of Bijaigarh, which is situated on an eminence about 2 miles to the south-west, and is shown in all maps under the name of Bādalgarh Kot. There are several old temples and remains in this fort; but the chief object of interest is a red sandstone pillar (*lāt*) bearing an inscription of the Varika king, Vishnuvardhana, a tributary of Samudra Gupta, dated in A.D. 372. Bijai Pāl, whose descendants rule at Karauli, is said to have been killed about the middle of the eleventh century in a battle with Masūd Sālār, a nephew of Mahmūd of Ghazni, when the fort was taken. It was soon after recovered by the Rājputs, only, however, to be again stormed successfully by Abu Bakr, Kandahāri, whose tomb is still pointed out in the vicinity. Thenceforward, it seems to have been held by whatever dynasty ruled at Delhi. Muhammad Ghorī took it in 1196 and Sikandar Lodī in 1492. Bābar, writing in 1526, describes the fort as one of the most famous in India, and his son Humāyūn took it from the Lodīs in 1535. Bayānā is mentioned in the *Ain-i-Akbarī* as having in former times been the capital of a province of which Agra was but a dependent village. It possessed a large fort containing many buildings and subterranean caverns, also a very high tower. The mangoes, some of which weighed above 2 lb., were excellent, and the place was famous for its very white sugar and its indigo, the latter selling at from Rs. 10 to Rs. 15 a maund[1].

[*Indian Antiquary*, vols. xiv and xv; J. F. Fleet, *Gupta Inscriptions*, p. 253.]

[1] As much as 3,562 'great maunds of Indicoe Byana,' valued at 278,673 *mahmūdis* (say £14,000), was consigned to England in the *Royal Anne*, the ship which brought home Sir Thomas Roe in 1619.

Bāzār.—Valley in the Khyber Political Agency, North-West Frontier Province, running east and west between the Surghar range on the south, the Ilācha Ghar or eastern extension of the Safed Koh on the east, and the Turo Sar range to the north, between 33° 38′ and 35° N. and 70° 37′ and 71° E. Its elevation ranges from 3,000 to 4,000 feet, and that of the enclosing hills from 5,000 to 7,000 feet. The valley is sterile in the extreme, save where the village lands are irrigated from the hill streams. The people are Afrīdis of the notorious Zakka Khel or clan, the most active thieves on the frontier, against whom on three occasions punitive expeditions have been sent. In 1878 their attacks on the line of communications in the Khyber during the second Afghān War compelled a punitive expedition. Major Cavagnari led an armed body of Kuki Khel Afrīdis, supported by guns, against them, and inflicted some punishment; but a regular expedition followed in December, which effectively chastised them at small cost of life. Nevertheless the clan continued to give trouble, and another expedition had to be sent into the valley in 1879, after which the clan submitted. In 1897 two columns under Sir William Lockhart entered the valley by the Chora and Ilācha passes at its eastern extremity, and destroyed the principal villages.

Beās (*Hyphasis* of the Greeks; *Arjikūja* of the Vedas; Sanskrit, *Vipāsa*).—One of the 'five rivers' of the Punjab from which the Province derives its name. Rising on the southern face of the Rohtang pass in Kulū, 13,326 feet above the sea, the Beās traverses the State of Mandī and enters Kāngra District at Sanghol, 1,920 feet above sea-level. During the early part of its course the fall averages 125 feet per mile. A fine suspension bridge spans the river at Mandī town, and a bridge of boats is kept up during the cold season at Dera Gopipur in Kāngra District. During its lower hill course the Beās is crossed by numerous ferries, at many of which the means of communication consists of inflated skins (*darais*). Lower down it meanders in a westerly course through hilly country, with a fall of 7 feet to the mile, and forms the main channel for the drainage of Kāngra. Near Reh in that District it divides into three channels, which reunite after passing Mirthal, 1,000 feet above sea-level. On meeting the Siwālik Hills in Hoshiārpur, the river sweeps sharply northward, forming the boundary between that District and Kāngra. Then bending round the base of the Siwāliks, it takes a southerly direction, separating the Districts of Hoshiārpur and Gurdāspur. In this portion of its course through the uplands of the Punjab plains, a strip of low alluvial soil fringes its banks, subject in flood-time to inundation from the central stream. The main channel is broad and ill-defined, full of islands and expanding from time to time into wide pools. The depth does not exceed 5 feet in the dry season, increasing to 15 feet during the rains. Broad flat-bottomed country

boats navigate this portion of the stream throughout the year. No bridges span the Beās in the Districts of Hoshiārpur or Gurdāspur. After touching Jullundur District for a few miles, the river forms the boundary between Amritsar and the Kapūrthala State. At Beās station it is crossed by a railway bridge on the North-Western Railway; and a bridge of boats on the grand trunk road is also maintained there during the cold season. The channel shifts from year to year through the alluvial valley according to the action of the floods. Finally, the Beās joins the Sutlej at the south-western boundary of the Kapūrthala State, after a total course of 290 miles. It ranks sixth in size among the rivers of the Punjab.

The chief tributaries are the Chakki and the Bein. The Chakki collects the drainage of the Chamba hills and its main stream joins the Beās near Mirthal, while the other branch, formerly a tributary of the Rāvi, has been turned aside by the Bāri Doāb Canal and forced to return to the Beās lower down. The Bein—called the 'Black' (*Siyāh*) Bein to distinguish it from the 'White' (*Safed*) Bein—rises in the Siwāliks, and joins the Beās 10 miles above its junction with the Sutlej.

The old course of the Beās can be traced from its present point of junction with the Sutlej through Lahore and Montgomery Districts to the place where it used to join the Chenāb, near Shujābād, before the Chenāb turned westwards. The united waters of the Jhelum, Chenāb, and Rāvi joined the Beās in those days 28 miles south of Multān. Since the end of the eighteenth century the course of the Beās has changed but little.

Beauleah.—Head-quarters of Rājshāhi District, Eastern Bengal and Assam. *See* RĀMPUR BOĀLIĀ.

Beāwar (also called Nayānagar).—Head-quarters of Merwāra District, Ajmer-Merwāra, situated in 26° 5′ N. and 74° 19′ E. Population (1901), 21,928: including Hindus, 15,547; Muhammadans, 3,947; and Jains, 2,094. Founded in 1835 by Colonel Dixon, afterwards Commissioner of Ajmer-Merwāra, in the neighbourhood of a now-abandoned cantonment, Beāwar rapidly grew into a prosperous town, owing to its advantageous position between Mewār (Udaipur) and Mārwār (Jodhpur). The town, which has wide streets and a surrounding stone wall with four gates, was regularly planned out from the beginning, and sites were allotted to traders who applied for shops. Beāwar is the only town in Merwāra District, and is a station on the main line of the Rājputāna-Mālwā Railway. The municipal income in 1902–3 was about Rs. 60,000. Beāwar is the chief cotton mart for Merwāra and the contiguous Native States of Mewār and Mārwār, and possesses a flourishing cotton-mill. The United Free Church of Scotland has a mission establishment, and maintains an industrial school.

Bechrāji.—Temple in the Kadi *prānt*, Baroda State, situated about 23 miles from the town of Kadi, and about the same distance from Modhera. The temple has been built in the jungle, and is surrounded by large and costly works designed for the accommodation of pilgrims and others—wells, tanks, *dharmsālas*, dispensary, &c. In the months of Aswin (September–October) and Chaitra (March–April) crowds of devotees visit the shrine from all parts of Gujarāt and make their offerings to the goddess. From these offerings and from the rich endowments given by former Gaikwārs the expenses of the temple are met.

Bedadanūru Coal-field.—Bedadanūru is a hamlet in the Polavaram minor *tāluk* of Godāvari District, Madras, situated in 17° 15′ N. and 81° 14′ E., about 10 miles from Jangareddigūdem on the Ellore-Prakkilanka road. It is the centre of a small coal-field, where the Barākar stage of sandstone outcrops over an area of about 5½ square miles. This is the only coal-field lying entirely within the Madras Presidency; but though prospecting has been carried on for some years, no paying seam has as yet been discovered.

Bedla.—Principal town of an estate of the same name in the State of Udaipur, Rājputāna, situated in 24° 38′ N. and 73° 42′ E., on the left bank of the Ahār stream, about 4 miles north of Udaipur city. Population (1901), 1,222. It contains a mission school attended by 30 boys. The estate is held by the second noble of Mewār, who is styled Rao. It consists of 111 villages, the majority of which are situated to the north of Chitor; among them is Nagari, one of the oldest places in Rājputāna and mentioned in the article on CHITOR. The income is about Rs. 64,000, and a tribute of Rs. 4,100 is paid to the Darbār. The Raos of Bedla are Chauhān Rājputs, and claim direct descent from Prithwī Rāj, the last Hindu king of Delhi. Bakht Singh, the great-grandfather of the present Rao, brought the European residents of Nīmach from Dūngla to Udaipur during the Mutiny of 1857, by the order of Mahārānā Sarūp Singh. For these services he received a sword of honour and was subsequently created a Rao Bahādur and a C.I.E.

Bednor.—Estate and head-quarters thereof in Udaipur State, Rājputāna. *See* BADNOR.

Bedsa.—Village in the Māval *tāluka* of Poona District, Bombay, 5 miles south-west of Khadkāla station on the Great Indian Peninsula Railway, which gives its name to a group of caves of the first century A.D. Population (1901), 171. The caves lie in 18° 43′ N. and 73° 35′ E., in the Supati hills, which rise above Bedsa village to a height of about 300 feet above the plain, and 2,250 feet above sea-level. The two chief caves are a chapel or *chaitya* and a dwelling cave or *layana*, both of them imitating wooden buildings in style. The chapel is approached by a narrow passage 40 feet long between two blocks of rock about

18 feet high. A passage 5 feet wide has been cleared between the blocks and the front of two massive octagonal columns and two demi-columns which support the entablature at a height of about 25 feet. The veranda or porch within the pillars is nearly 12 feet wide, and 30 feet 2 inches long. Two benched cells project into it from the back corners and one from the front, with, over the door, an inscription in one line recording: 'The gift of Pushyanaka, son of Ananda Shethi, from Nāsik.' The corresponding cell in the opposite end is unfinished. Along the base and from the levels of the lintels of the cell doors upwards the porch walls are covered with the rail pattern on flat and curved surfaces, intermixed with the *chaitya* window ornaments, but without any animal or human representations. This and the entire absence of any figure of Buddha point to the early or Hināyana style of about the first century after Christ. The *dāgoba* or relic shrine has a broad fillet or rail ornament at the base and top of the cylinder, from which rises a second and shorter cylinder also surrounded above with the rail ornament. The box of the capital is small and is surmounted by a very heavy capital in which, out of a lotus bud, rises the wooden shaft of the umbrella. The top of the umbrella has disappeared. The relic shrine is now daubed in front with red lead and worshipped as Dharmarāj's *dhera* or resting-place. There is a well near the entrance, and about twenty paces away stands a large unfinished cell containing a cistern. Over the latter is an inscription in three lines of tolerably clear letters which records: 'The religious gift of Mahābhoja's daughter Sāmadinikā, the Mahādevī Mahārathini and wife of Apadevanaka.' This inscription is of very great interest, being one of the earliest mentions of the term Mahāratha yet discovered. A relic shrine or *dāgoba* lies a short distance from the chapel cave and also bears a short inscription.

Beehea.—Village in Shāhābād District, Bengal. *See* BIHIYĀ.

Beerbhoom.—District in Bengal. *See* BĪRBHŪM.

Begampur.—Village in the Sholāpur *tāluka* of Sholāpur District, Bombay, situated in 17° 34′ N. and 75° 37′ E., on the left bank of the Bhīma river, about 25 miles south-west of Sholāpur city. Population (1901), 2,304. The place takes its name from one of Aurangzeb's daughters, who died while her father was encamped at Brahmapuri on the opposite bank of the river. She was buried at this place, and her tomb is a plain solid structure in a courtyard 180 feet square. It overhangs the Bhīma, from which it is guarded by a strong masonry wall now much out of repair. Round the tomb a market slowly sprang up, with the result that the suburb of Begampur outgrew the original village of Ghadeshwar, from which it is separated by a water-course. About Rs. 40,000 worth of thread, cloth, and grain change hands every year at the weekly market on Thursday. The village has

a little manufacture of coarse cotton cloth or *khādi*. It contains a primary school.

Begāri Canal.—An important water-channel in the Upper Sind Frontier District, Sind, Bombay. It taps the Indus at its extreme south-eastern boundary, forming for about 50 miles of its course a well-defined line of demarcation between the Frontier District and Sukkur. In 1851 this canal was at its head only 50 feet wide, with a depth of 9 feet. It was enlarged in 1854, when the water was admitted into it from the Indus and reached Jacobābād, 50 miles distant, in sixteen hours. Subsequently, the tail of the canal was enlarged, and extended farther westward. Several improvements have been carried out during the last few years. The entire length of the main canal is 76 miles, and it serves the Districts of Upper Sind Frontier (202 square miles), Sukkur (46 square miles), Kalāt (43 square miles), and Lārkāna (300 acres). About five canals branch directly from it, the principal being the Nur Wah (19 miles) and Mirzā (10 miles). The canal is also connected with the branches of the Ghār Canal. The aggregate cost of these works up to the end of 1903–4 amounted to 17 lakhs; the receipts in the same year were about $4\frac{1}{2}$ lakhs, and the total charges (exclusive of interest) over one lakh. The gross income was thus 26 per cent. on the capital expended and the net receipts 18·3 per cent. The area irrigated was 495 square miles. The canal is navigable for about 60 miles.

Begūn.—Chief town of an estate of the same name in the State of Udaipur, Rājputāna, situated in 24° 59′ N. and 75° 1′ E., about 90 miles east-by-north-east of Udaipur city. Population (1901), 3,625, about 70 per cent. being Hindus. The town contains a picturesque palace and a fairly strong fort. The estate, which includes the town and 127 villages, belongs to one of the first-class nobles of Mewār, who is styled Rāwat Sawai. The income is about Rs. 48,000, and a tribute of about Rs. 5,200 is paid to the Darbār. The Rāwats of Begūn belong to the Chondāwat family of the Sesodia Rājputs. In the estate is the village of Menāl, formerly called Mahānāl or the 'great chasm,' which possesses a monastery and Sivaite temple constructed, according to the inscriptions they bear, in 1168 by the wife of the famous Prithwī Rāj Chauhān, whose name was Suhav Devī, *alias* Rūthi Rānī ('the testy queen').

Begusarai Subdivision.—North-western subdivision of Monghyr District, Bengal, lying between 25° 15′ and 25° 47′ N. and 85° 47′ and 86° 27′ E., with an area of 751 square miles. The population in 1901 was 642,966, compared with 611,349 in 1891. It contains 755 villages, but no town; the head-quarters are at BEGUSARAI. The subdivision, which forms a continuation of the fertile alluvial plain of Tirhut, and supports 857 persons to the square mile, is the most densely

populated part of the District. The cultivation of indigo is carried on, but the industry is declining.

Begusarai Village.—Head-quarters of the subdivision of the same name in Monghyr District, Bengal, situated in 25° 26′ N. and 86° 9′ E. Population (1901), 9,338. The village contains the usual public offices; the sub-jail has accommodation for 28 prisoners.

Behār.—Subdivision and town in Patna District, Bengal. *See* BIHĀR.

Behir.—*Tahsīl* in Bālāghāt District, Central Provinces. *See* BAIHAR.

Behror.—Head-quarters of a *tahsīl* of the same name in the State of Alwar, Rājputāna, situated in 27° 53′ N. and 76° 17′ E., about 32 miles north-west of Alwar city, and 18 miles west-by-south-west of Ajeraka station on the Rājputāna-Mālwā Railway. Population (1901), 5,540. The town possesses a mud fort about 50 yards square, a fair bazar, a post office, a vernacular school, and a hospital with accommodation for 6 in-patients. A municipal committee supervises the lighting and conservancy, the income, derived mainly from octroi, being about Rs. 2,200 and the expenditure Rs. 1,800. The *tahsīl*, which contains 132 villages besides the town, is situated in the north-west of the State, and has a population of 71,082. More than 35 per cent. of the inhabitants are Ahīrs, who are the best cultivators in the State. Under the Mughals this tract was included in the *Sūbah* of Nārnaul, but the real rulers were the local Chauhān chiefs. In the first half of the eighteenth century the Jāts of Bharatpur overran it, but they were ousted before the end of that century by Pratāp Singh, the first chief of Alwar.

Beji.—River in Baluchistān. *See* NĀRI.

Bekal.—Village in the Kāsaragod *tāluk* of South Kanara District, Madras, situated in 12° 24′ N. and 75° 3′ E. It has a fine fort on a headland facing the sea, which was built by Sivappa Naik of Bednūr about the middle of the seventeenth century. The defences are said to show traces of European science. The surrounding tract is really part of the Malayālam country, and was at one time subject to the Chirakkal Rājās. Bekal formerly gave its name to the present *tāluk* of Kāsaragod, but it is now of no importance.

Bela.—Capital of the Las Bela State, Baluchistān, and residence of the Jām, situated in 26° 14′ N. and 66° 19′ E. It lies near the apex of the Las Bela plain, 1½ miles from the Porāli river and 116 miles from Karāchi. Population (1901), 4,183. The majority were State servants, but 356 Hindus were included. The town is not walled and consists of 400 or 500 huts. The Jām's residence, a *tahsīlī*, a treasury, a jail, and lines for the military police are the principal buildings. The ancient name of the town was Armāel or Armābel. Sir Robert Sandeman died at Bela in 1892, and was buried on the south of the

town. His tomb, of granite and white English marble, is placed beneath a dome erected by the Jām, and is surrounded by a garden. A small establishment is maintained in the town for purposes of conservancy. Cotton cloth and rice constitute the principal imports; oilseeds, *ghī*, and wool the exports. Bela crochet-work is well-known.

Belā (or Belā Partābgarh).—Head-quarters of Partābgarh District and *tahsīl*, United Provinces, situated in 25° 55′ N. and 82° E., on the bank of the Sai, at the junction of the main line of the Oudh and Rohilkhand Railway with a branch from Allahābād to Fyzābād, and on a road between the same two places. Population (1901), 8,041. The town derives its name from the temple of Belā Bhawānī near the river. It was founded in 1802 as a cantonment for the Oudh auxiliary force, and after the Mutiny became the head-quarters of a District. The town is well laid out and has been thoroughly drained. Besides the usual offices, it contains a general dispensary and a magnificent female hospital, and there is a branch of the Zanāna Bible and Medical Mission. Belā has been a municipality since 1871. During the ten years ending 1901 the income and expenditure averaged Rs. 10,000. In 1903-4 the income was Rs. 14,000, chiefly derived from octroi (Rs. 8,000) and fees and rents; and the expenditure was Rs. 16,000. There is a flourishing trade in agricultural produce. Three schools have 340 pupils.

Belagutti.—Town in the Honnāli *tāluk* of Shimoga District, Mysore, situated in 14° 11′ N. and 75° 31′ E., 10 miles south-west of Honnāli town. Population (1901), 2,799. The original form of the name was Belagavatti. It was the seat of a line of Nāga chiefs who called themselves Sindas. They ruled during the twelfth and thirteenth centuries, under the Chālukyas, Hoysalas, and Seunas. The place stands in a plain of fertile black soil.

Belāpur.—Village in the Rāhuri *tāluka* of Ahmadnagar District, Bombay, situated in 19° 34′ N. and 74° 39′ E., 15 miles north of Rāhuri, on the Dhond-Manmād Railway. Population (1901), 4,630, including Belāpur-Khurd (1,167). It lies on the north bank of the Pravara, which in floods rises to the gates. On the river-side are some picturesque buildings belonging to the Naiks, an old Marāthā family. The chief traders are Mārwāri Vānis and Telis. In 1822 an attempt was made to make Belāpur the centre of a revolt. Troops were to be collected here and at Nandurbār in Khāndesh, and in conjunction with the local Kolīs were to make a general attack upon the British posts. The plot was, however, discovered and quashed.

Belgāmi (or Balgāmi).—Village in the Shikārpur *tāluk* of Shimoga District, Mysore, situated in 14° 24′ N. and 75° 15′ E., 14 miles north-west of Shikārpur. Population (1901), 1,330. Its name appears in inscriptions as Balligāmve, Balligrāme, Balipura, and similar forms. Even

in the twelfth century it was of such antiquity as to be styled the mother of cities, the capital of ancient cities, the immemorial capital, and is said to derive its name from the giant Bali. On account of its religious merit it was called the Dakshina Kedāra, and also had the name Kamatha. Under the Chālukyas and Kalachuris it was the capital of the Banavāsi 'twelve thousand' province. It contained five *maths*, with temples dedicated to Vishnu, Siva, Brahmā, Jina, and Buddha, and three *puras*, besides seven Brahmapuris. At the Kodiya *math* of the Kedāresvara temple medicine and food were dispensed to all comers. Of eighty-four inscriptions in the place most are of the eleventh and twelfth centuries. Its prosperity continued under the Hoysalas and Seunas, but the city no doubt fell a prey to the Muhammadan invaders of the fourteenth century who overthrew the Hoysala power. The ruined temples are rich with carving equal to any in Mysore.

Belgaum District.—District in the Southern Division of the Bombay Presidency, lying between 15° 22′ and 16° 58′ N. and 74° 2′ and 75° 25′ E., with an area of 4,649 square miles. It is bounded on the north by the States of Mirāj and Jath; on the north-east by Bijāpur District; on the east by the States of Jamkhandi, Mudhol, Kolhāpur, and Rāmdurg; on the south and south-west by the Districts of Dhārwār and North Kanara, the State of Kolhāpur, and the Portuguese territory of Goa; and on the west by the States of Sāvantvādi and Kolhāpur. The lands of the District are greatly interlaced with those of the neighbouring Native States, and within the District are large tracts of Native territory.

Physical aspects.

The country forms a large plain, studded with solitary peaks and broken here and there by low ranges of hills. Many of the peaks are crowned by small but well-built forts. The lower hills are generally covered with brushwood, but in some cases their sides are carefully cultivated almost to the very summits. The most elevated portion of the District lies to the west and south along the line of the Sahyādri Hills or Western Ghāts. The surface of the plain slopes with an almost imperceptible fall eastwards to the borders of Bijāpur. On the north and east the District is open and well cultivated, but to the south it is intersected by spurs of the Ghāts, thickly covered in some places with forest. Except near the Western Ghāts, and in other places where broken by lines of low hills, the country is almost a dead level; but especially in the south, and along the banks of the large rivers, the surface is pleasantly varied by trees, solitary and in groups. From March to June the fields are bare; and but for the presence of the mango, tamarind, jack, and other trees, reared for their fruit, the aspect of the country would be desolate in the extreme.

The principal rivers are the Kistna, here properly called the Krishna, flowing through the north, the Ghatprabha, flowing through the centre,

and the Malprabha, through the south of the District. From their sources among the spurs of the Western Ghāts, these rivers pass eastwards through the plain of Belgaum on their way to the Bay of Bengal. They are bordered by deeply cut banks, over which they seldom flow. None is serviceable for purposes of navigation. In the west the rivers and wells yield a sufficient supply of good water; but towards the east the wells become brackish, and the water-bearing strata lie far below the surface. Except the Kistna, which at all times maintains a considerable flow of water, the rivers sink into insignificant streams during the hot season, and the supply of water falls short of the wants of the people.

In the south of the District is a narrow strip of Archaean gneissic rock, including some hematite schists of the auriferous Dhārwār series. In the centre quartzite and limestone of the Kalādgi (Cuddapah) group are found partly overlaid by two great bands of basalt belonging to the Deccan trap system, and in the north and west basalt and laterite occur. Several of the river valleys contain ancient alluvial deposits of upper pliocene or pleistocene age, consisting of clay with partings and thin beds of impure grits and sandstones. In the banks of a stream that flows into the Ghatprabha at Chikdauli, 3 miles north-east of Gokāk, were found some remarkable fossil remains of mammalia, including an extinct form of rhinoceros[1].

Of the typical trees of the District, *māti* (*Terminalia tomentosa*), *jāmbul* (*Eugenia Jambolana*), *nāna*, *harda*, *sisva*, and *hasan* (*Pterocarpus Marsupium*) yield valuable timber; *kārvi* (*Strobilanthus Grahamianus*) and small bamboos are used for fencing and roofing, and *kumba* (*Careya arborea*) is in demand for the manufacture of field tools. The *harda* and *hela* (*Terminalia belerica*) furnish myrabolams, and the *shemba* (*Acacia concinna*) supplies the *ritha* or soap-nut which is used in cleaning clothes. The chief fruit trees are the mango, jack, custard-apple, bullock's-heart, cashew-nut, *jāmbul*, *bael*, wood-apple, pummelo, sweet lime, citron, lime, orange, *kokam*, *avla*, *bor*, *turan*, *guti*, *agasti*, horse-radish tree, guava, pomegranate, *papai*, *karanda*, fig, mulberry, plantain, and pineapple. Among creepers the most noticeable are several species of convolvulus; and a large number of English flowers have been grown from seeds and cuttings.

Antelope are found in the north and east. *Sāmbar*, deer, wild hog, and hyenas are not uncommon in the waste and forest lands. Of the larger beasts of prey, leopards are pretty generally distributed, but tigers are met with only in the south and south-west. Of game-birds there are peafowl, partridge, quail, duck, snipe, teal, *kalam*, and occasionally bustard.

[1] R. B. Foote, *Memoirs, Geological Survey of India*, vol. xii, pt. i; and *Palaeontologia Indica*, Series X, vol. i, pt. i.

The moderate heat, the early and fresh sea-breeze, and its altitude above the sea, make Belgaum pleasant and healthy. The lowest temperature recorded is 53° in January, while in May it rises to 100°. The most agreeable climate is found in a tract parallel with the crest of the Western Ghāts between the western forests and the treeless east. The cold and dry season lasts from mid-October to mid-February, the hot and dry season from mid-February to early June, and the wet season from early June to mid-October. The heat of April and May causes occasional heavy showers, attended with easterly winds, thunder, lightning, and sometimes hail. Even in May the nights are cool, almost chilly. Near the Ghāts the south-west monsoon is very constant and heavy. Farther east it is fitful, falling in showers separated by breaks of fair weather. The rainfall at the District head-quarters averages about 50 inches. In the east it is as low as 24, while in Chandgad in the extreme west 107 inches are registered. From March to September the prevailing winds are from the west and south, and from October to February from the east and north.

History.

The oldest place in Belgaum is Halsi, which, according to seven copperplates found in its vicinity, was the capital of a dynasty of nine Kadamba kings. In all probability the Early (550–610) and Western (610–760) Chālukyas held Belgaum in succession, yielding place about 760 to the Rāshtrakūtas, a trace of whose power survived till about 1250 in the Ratta Mahamandaleshwars (875–1250), whose capital was first Saundatti and subsequently (1210) Venugrāma, the modern Belgaum. Inscriptions discovered in various parts of the District show that during the twelfth and early years of the thirteenth centuries the Kadambas of Goa (980–1250) held part of the District known as the Halsi 'twelve thousand,' and the Venugrāma or Belgaum 'seventy.' The third Hoysala king, Vishnuvardhana or Bitti Deva (1104–41), held the Halsi division for a time as the spoil of battle; but the territory of the Goa Kadambas as a whole had by 1208 been entirely absorbed by the Rattas. The last of the Rattas, Lakshmideo II, was overthrown about 1250 by Vichana, the minister and general of the Deogiri Yādava, Singhana II; and from that date up to their final defeat by the Delhi emperor in 1320, the Yādavas seem to have been masters of Belgaum and surrounding tracts. During the brief overlordship of the Delhi emperors Belgaum was administered by two Musalmān nobles, posted at Hukeri and at Rāybāg. About the middle of the fourteenth century, the District was partitioned between the Hindu Rājās of Vijayanagar, who held the portion south of the Ghatprabha, and the king of Delhi, who held that to the north. On the foundation of the Bahmani dynasty in 1347 the territories contained in the latter half fell under the sway of that dynasty, which subsequently, in 1473, took the town of Belgaum and conquered the southern division

also. During the next hundred years the Vijayanagar Rājās made numerous efforts to recover their territories, in which they were assisted by the Portuguese; but they failed to make any lasting conquests, and were completely overthrown in the battle of Tālikotā (1565). For the next hundred and twenty years Belgaum may be said to have remained part of the territories of the Bijāpur Sultāns. On the overthrow of Bijāpur at the hands of Aurangzeb in 1686, the District passed to the Mughals and was granted as a *jāgīr* to the Nawāb of Savanūr, who subsequently had to relinquish a share to the Nizām. Some part of it, however, appears to have been in the hands of the Marāthās. About 1776 the whole country was overrun by Haidar Alī, but was subsequently retaken by the Marāthā Peshwā with the assistance of the British. In 1818, after a period of great disorder, during which the country was alternately harried by the troops belonging to Sindhia, Kolhāpur, Nipāni, and other chiefs, the country passed to the British and became part of the District of Dhārwār; but in 1836 it was considered advisable to divide the unwieldy jurisdiction into two parts. The southern portion therefore continued to be known as Dhārwār, while the tract to the north was constituted a separate charge.

Copperplate inscriptions have been discovered at HALSI. The District contains some hill forts, the chief of which are Mahīpatgarh, Kalanidhgarh, and Pārgarh. Scattered temples are ascribed to Jakhanāchārya but are really Chālukyan, a very fine one being found at Degānve. There is an interesting group of prehistoric burial dolmens at KONNŪR. Many temples dating from the eleventh, twelfth, and thirteenth centuries are scattered over the District, of which nearly all were originally Jain but have been converted into *lingam* shrines. The most noteworthy are a group in Belgaum fort; those at Degānve, Vakkund, and Nesārgi in Sampgaum; groups at Huli, Manoli, and Yellamma in Parasgad; those at Shankeshwar in Chikodi, and at Rāmtīrth and Nandgaon in Athni. The finest Musalmān remains are the fort and Safa mosque at Belgaum, and the mosques and tombs at Hukeri and Sampgaon.

Population.

According to the Census of 1872 the population of the District was 946,702. The next Census of 1881 returned 865,922, showing a decrease of over 9 per cent., due to the famine in 1876. In 1891 the population increased to 1,013,261, but again fell in 1901 to 993,976, owing to the bad years of 1892, 1896, 1899, and 1900.

The table on the next page gives statistics according to the Census of 1901.

The Chikodi and Sampgaon *tālukas* contain many large and rich villages and are well peopled. The chief towns are BELGAUM, the head-quarters, NIPĀNI, ATHNI, GOKĀK, and SAUNDATTI-YELLAMMA.

Classified according to religion, Hindus form 86 per cent. of the total population, Musalmāns 8 per cent., Jains 5 per cent. Among Hindus the only special class are the Lingāyats, a peculiar section of the worshippers of Siva, numbering over 300,000, of whom a description will be found under DHĀRWĀR DISTRICT. The languages in use are Marāthī, mostly in the south and west, and Kanarese generally over the greater part of the District. The latter is spoken by 65 and the former by 25 per cent. of the total. Hindustāni is used by 8 per cent.

Tāluka.	Area in square miles.	Number of Towns.	Number of Villages.	Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
Athni	816	1	82	113,077	139	- 8	5,249
Chikodi	836	2	210	304,549	364	+ 3	15,714
Gokāk	671	1	113	116,127	173	- 2	3,754
Belgaum	644	1	201	137,562	214	- 7	9,839
Sampgaon	409	...	123	132,448	324	- 1	6,031
Parasgad	640	1	124	108,311	169	- 2	6,839
Khānāpur	633	...	217	81,902	129	- 4	3,457
District total	4,649	6	1,070	993,976	214	- 2	50,883

The chief castes and their occupations are: Brāhmans, or priests, numbering 32,000. They are for the most part Deshasths (23,000), and employed as writers, merchants, traders, money-lenders, and landowners. Ayyas or Jangams (24,000) are Lingāyat priests. Traders include Banjigs (26,000) and Adi-banjigs (13,000). There are numerous Jain cultivators and labourers, indicating the former supremacy of the Jain religion in the Bombay Carnatic. Other cultivators are Marāthās and Marāthā Kunbīs (175,000), Chhatris (9,000), Hanbars (15,000), and Lingāyat Panchamsālis (154,000). Craftsmen include Pānchāls (15,000) and Gaundis or Uppars, builders and stone-cutters (14,000). Lingāyat Hongārs or Mālgārs (11,000) are flower-sellers. Shepherds include two shepherd castes, Dhangars or Kurubas (73,000), and Gaulis who keep cows and buffaloes. The depressed classes are chiefly the Holiars or Mahārs (48,000) and Māngs or Mādigs (22,000). Along the banks of the Kistna, in the north of the District, are many Kaikādis, a tribe notorious for their skill as highway robbers; while the south of the District was much troubled in recent times by Bedars or Berāds, a thieving caste that assisted in the plundering of Vijayanagar after the battle of Tālikotā. The agricultural population forms 66 per cent. of the total. Industry supports 16 per cent. and commerce 1 per cent. Weavers engaged in the hand-loom industry number more than 13,000, with 11,000 dependents.

The District has a considerable Christian population. Of the 5,366 native Christians in 1901 about 5,000 were Roman Catholics. The majority are Konkani or Goa Catholics, who are immigrants from Goa, and are under the jurisdiction of the Archbishop of that place. The others include Madras Catholics and Protestants, who came from Madras about 1817. The chief missions are an Anglican Tamil Mission and the American Methodist Mission, with out-stations at Kanbargi, Nesārgi, and Bail Hongal. Roman Catholic priests are resident in Belgaum, Khānāpur, and Godoli; and there are two orphanages and a rescue home in the District, which are managed by independent trustees, but belong to the Methodist Episcopal Mission. A mission to soldiers, known as the Soldiers' Home, is situated in the cantonment.

Agriculture.

The chief varieties of soil are black and red. The black, which is by far the most fertile, is of two kinds. One variety is very friable, but when impregnated with moisture forms a tough clay-like substance, almost impervious to water, and therefore very valuable as a lining for tanks. The other kind is not so tenacious of moisture, and, unless it receives abundance of irrigation, either natural or artificial, not nearly so productive. In order to bring a waste of black soil under tillage, the field must receive three complete ploughings—one direct, one transverse, and one diagonal. It does not receive any further ploughing; but annually before sowing the ground is cleared and the surface loosened with a small knife. The red and sandy soils are very apt to cake and harden after rain, so that the field must be ploughed every year—if possible, once lengthwise and a second time transversely. This is done by a smaller plough of the same construction as the large plough used for black fields, but lighter. Fields of pure black soil do not receive manure; on the other hand, the out-turn from red and sandy lands seems to depend almost entirely on the amount of dressing they have received.

On 'dry' fields, most of the grain, pulses, oilseeds, and fibres are sown; some are cultivated on red and sandy soils during the rainy months; others are grown on black soil as a cold-season crop. Cotton is raised entirely on black soil as a cold-season crop.

The District is almost wholly *ryotwāri*. *Inām* or *jāgīr* lands cover 983 square miles. The chief statistics of cultivation in 1903-4 are shown in the table on the next page, in square miles.

Jowār, the staple of the District, occupying 884 square miles, is grown in all parts, especially in Chikodi, Athni, Gokāk, Parasgad, and Sampgaon. *Bājra* covered 297 square miles, chiefly in Athni, Gokāk, and Chikodi. The south-western portion, being too wet for millets, produces rice (176 square miles) and the coarse hill grains. Wheat (157 square miles) is the prominent crop of Parasgad. *Rāle-kāng* or Italian millet occupied 118 square miles. Pulses occupied 333 square

miles; of these, 92 square miles were under *tur*, 98 under *kulith* or horse-gram, and 62 square miles under gram. Oilseeds were grown on 98 square miles. Chikodi is famous for its sugar-cane and fruit and vegetable gardens. Tobacco (35 square miles) is an important crop in Chikodi in gardens or on favourable plots near villages or along rivers and streams. Cotton, covering 352 square miles, is the most valuable crop grown in the District. It is especially important in Athni, Parasgad, and Gokāk.

Tāluka.	Total area.	Cultivated.	Irrigated.	Cultivable waste.	Forest.
Athni	816	701	10	9	1
Chikodi	837	689	28	20	33
Gokāk	671	519	19	10	92
Belgaum	644	309	7	18	135
Sampgaon	410	348	9	10	25
Parasgad	639	526	1	21	49
Khānāpur	633	243	6	22	340
Total	4,650*	3,335	80	110	675

* Statistics are not available for 237½ square miles of this area. These figures are based upon the latest information.

American cotton was introduced in 1845, and is planted to a small extent in Parasgad and Sampgaon. It has greatly degenerated in the course of years. The cultivators avail themselves freely of the Land Improvement and Agriculturists' Loans Acts. During the decade ending 1903–4 more than 17·4 lakhs was advanced, of which 4·2, 3·2, and 3 lakhs was lent in 1896–7, 1899–1900, and 1901 respectively.

Cattle of inferior quality are bred by Dhangars in the forest tracts of Khānāpur and Belgaum, the majority of better breed being imported from Mysore and other places. Bullocks of eight breeds are found in all parts, the strongest and largest being imported from South Kāthiāwār, and the best-trotting oxen from Mysore. Of local breeds, the Nagdi are the most useful and hardy. Buffaloes do not thrive near the Western Ghāts; but the Gaulis, Hanbars, and Dhangars of Sampgaon, Gokāk, and the eastern tract rear buffaloes of a good type. The so-called Nagdi buffaloes are reputed the best. Ponies of a small and ugly type are bred locally, as also are donkeys and pigs by Vaddars and other low-caste Hindus. Sheep of two breeds, the Kenguri with a soft red wool and the Yelga with white or black, are reared by Dhangars, while goats of four varieties are ubiquitous. The best breed of the latter is known as Kuisheli.

Of the total area cultivated, 80 square miles, or 3 per cent., were irrigated in 1903–4. Government canals supplied 15 square miles, tanks 16, wells 46, and other sources 10 square miles. The water-supply is plentiful except in the east. Irrigation is largely employed

for rice and vegetables in the best portions of the western half of the District. Of the recently improved reservoirs the chief is the Gadekeri lake about 15 miles south-east of Belgaum, in the Sampgaon *tāluka*, which has an area of 129 acres and a maximum depth of 5 feet. The catchment basin measures 4·68 square miles, and the average rainfall is 29 inches. It supplied 337 acres in 1903–4. The most important water-work is the Gokāk canal and storage reservoir. A masonry weir has been built across the Ghatprabha where its catchment area, including that of its chief tributaries the Tāmraparni and the Harankāshi, is about 1,100 square miles, of which a large extent lies in the Western Ghāts. The storage work and the first section of the canal were completed at a cost of 12·2 lakhs, the capital outlay to the end of 1903–4 being 12·9 lakhs. The Gokāk canals command 28 square miles, and irrigate an average of 16 square miles. Wells used for irrigation are most common in Chikodi and Belgaum. In Khānāpur no wells are used for this purpose. In 1993–4 wells and tanks used for irrigation numbered 12,660 and 1,161 respectively.

Forests.

In the west of the District, among the spurs of the Western Ghāts, is a considerable area of forest land. Formerly large tracts were yearly destroyed by indiscriminate cultivation of shifting patches of fire-cleared woodland. This form of tillage has now been limited to small areas, specially set apart for the purpose. The District possesses 665 square miles of 'reserved' and 10 square miles of 'protected' forest. Of this total, 51 square miles are in charge of the Revenue department. It is very unevenly distributed, the large *tālukas* of Athni and Parasgad having little or no forest, while Khānāpur has twice as much forest as tillage. The forest administration is under a divisional officer, assisted by a subdivisional officer. The Belgaum forests may be roughly divided into 'moist' and 'dry,' the 'dry' lying east of the Poona-Harihar road and the 'moist' lying west of the road. The latter includes the forests of Belgaum and Khānāpur, about 500 square miles. The 'dry' forest, about one-eighth of which is stocked with useful wood, is very poor and stony, yielding only firewood scrub with a few small poles fit for hut-building. The produce is chiefly cactus, four kinds of fig, *dindal*, and *tarvār*. The most important trees in the 'moist' forest are teak, black-wood, *honne* (*Pterocarpus Marsupium*), *hirda* or myrabolam, and jack-wood. There are also a few *babūl* Reserves. The forest supplies large quantities of firewood to the Southern Mahratta Railway. The total forest receipts in 1903–4 were 2·77 lakhs.

Diamonds are said to have been found in the sandstone towards Kolhāpur and gold in the valley of the Malprabha. Iron was formerly smelted in Belgaum, Gokāk, and Sampgaon, and near the Rām pass. The ore is generally peroxide of iron, with a mixture of clay, quartz,

and lime. All the laterite of the District is charged with iron, though in too small a proportion to make it worth smelting. The manufacture of iron has now ceased, partly on account of the increased cost of fuel and partly because of the fall in the price of iron. Besides iron, the only metallic ore which occurs in any quantity is an earthy powdery form of peroxide of manganese, which is found among weathered dolomite at Bhīmgarh.

Trade and communications.

Next to agriculture, hand-loom weaving forms the chief industry of the District. The weavers are generally Lingāyats or Musalmāns, with a small sprinkling of Marāthās. The finer sorts of cloth are manufactured only in two or three towns. With the exception of a small quantity of cloth sent to the neighbouring Districts, the produce of its hand-looms is almost entirely consumed in Belgaum. Simple dyeing and tanning are carried on over the whole District. Gokāk town was once famous for its dyers, and is still noted for a coarse kind of paper made in large quantities. Gokāk toys, made both from light kinds of wood and from a peculiar kind of earth, are also celebrated. They consist of models of men and gods, fruits and vegetables. A factory for spinning and weaving cotton yarn was established at Gokāk, by an English company, in 1887. The mills are worked by water-power supplied from the falls of the Ghatprabha from a height of about 170 feet. The average daily number of labourers employed in the factory is 2,038, and the yearly out-turn amounts to 5,000,000 lb. The railway station for the mills is Dhupdhal.

The capitalists of the District are chiefly Mārwāris and Brāhmans, but in the town of Belgaum there are a few Musalmāns who possess comfortable fortunes. There is a considerable trade in cloth and silk, the chief exports being rice, jaggery, tobacco, and cotton, and the chief imports cloth, silk, salt, and grain. In several villages throughout the District markets are held at fixed intervals, usually once a week. These markets supply the wants of the country round within a radius of about 6 miles, containing as a rule from twenty-five to thirty villages and hamlets.

The West Deccan section of the Southern Mahratta Railway, crossing the District from north to south, was opened in 1887. The line passes through the Khānāpur, Belgaum, Chikodi, Gokāk, and Athni *tālukas*. A considerable traffic which used to pass along the Poona-Harihar road, or coastwards by the *ghāt* passes, is now carried by the railway. At Londa, a station in the Khānāpur *tāluka*, the West Deccan section connects with the Bangalore and the Marmagao lines, and in the spring a large amount of produce finds its way to the sea by the latter route. The total length of metalled roads is 498 miles, and of unmetalled roads 515 miles. Of these, 449 miles of metalled and

62 of unmetalled roads are maintained by the Public Works department. The chief roads are the Harihar road, the Belgaum-Amboli-Vengurla road, the Nipāni-Mahalingpur road, the road from Sankeshwar to Dhārwār via Hukeri, Gokāk, and Saundatti, the road from Shedbal to Bijāpur via Athni, and the Belgaum-Khānāpur road to Londa and Kanara.

Famine.

The District has suffered from constant scarcities owing to the uncertainty of its rainfall. The earliest recorded failure of rain led to the great Durgā-devī famine. Subsequent famines occurred in 1419, 1472–3 (exceptional distress), 1790 (caused by the raids of the Marāthās), 1791–2 (failure of early rain), 1802–3 (caused by the depredation of the Pindāris), 1832–3, 1853, and 1876–7. The need of Government help began about the middle of September, 1876. At the height of the famine in May, 1877, there were 43,196 persons on relief works and 7,641 in receipt of gratuitous relief. After fifteen years the District again (1892) suffered from famine, which chiefly affected three of its *tālukas*, Athni, Gokāk, and Parasgad, and relief works were opened. In 1896 the rains were indifferent, and nearly one-third of the total area of the District was distressed, relief being again required. In 1899 the rains failed, bringing on intense scarcity in Athni, Gokāk, Parasgad, and part of Chikodi. Relief works were opened in December, 1900, and continued till October, 1902. The highest number relieved in a day on works was 16,313 (excluding 5,672 dependents) in August, 1901, 5,876 being in receipt of gratuitous relief. It is calculated that the excess of mortality over the normal during the three years was 60,000, and that 100,000 cattle died. Exclusive of advances to the agriculturists and remissions, the famine in the District cost 5 lakhs. Remissions of land revenue and advances amounted to about 2 lakhs.

Administration.

The District is divided into seven *tālukas*: ATHNI, CHIKODI, BELGAUM, GOKĀK, SAMPGAON, KHĀNĀPUR, and PARASGAD. The Collector is usually assisted by two officers of the Indian Civil Service and one Deputy-Collector recruited in India. There are three petty subdivisions (*pethas*): Murgod in Parasgad, Hūkeri in Chikodi, and Chandgad in the Belgaum *tāluka*.

The District and Sessions Judge at Belgaum is assisted by five Subordinate Judges for civil business. There are altogether seventeen officers to administer criminal justice in the District. The commonest offences are burglary and theft.

On the acquisition of Belgaum in 1818 the Marāthā assessment remained for a time unrevised, although Bājī Rao's revenue-farming system, which had wrought great havoc in the District, was immediately suspended in favour of the personal or *ryotwārī*, then known as the Madras system. A survey was attempted during the first ten years

of British rule, but no revision of assessment was carried out. The principal features of the land-rent settlement between 1818 and 1848 were a very high nominal demand and the annual grant of large remissions after inspection of the crops. The assessment both by village and holding was very unequally distributed. The settlement of the District began in 1848–9. It was at first introduced into 108 villages of the Parasgad *tāluka*, and by 1860–1 the whole District had been surveyed and its assessment fixed for thirty years. The villages were arranged in five or more classes, the rate of assessment per acre for each class being fixed in accordance with climatic conditions, propinquity of markets, and other circumstances. The net result was the reduction of the total revenue from 6·4 to 5·5 lakhs. The revision survey settlement was introduced into the District in 1879 and was completed by 1897. The revision found an increase in the cultivated area of 2 per cent. and enhanced the total revenue from 8·5 to 10·9 lakhs. The average assessment per acre of 'dry' land is 13 annas, of rice land Rs. 3–8, and of garden land Rs. 2–7.

Collections on account of land revenue and revenue from all sources have been, in thousands of rupees:—

	1880–1.	1890–1.	1900–1.	1903–4.
Land revenue . .	17,68	21,63	20,26	22,55
Total revenue . .	24,05	31,04	35,96	31,50

The District contains six municipalities: namely, BELGAUM, NIPĀNI, ATHNI, GOKĀK, SAUNDATTI, and YAMKANMARDI, the total annual income of which averages a lakh. Outside these, local affairs are managed by a District board and seven *tāluka* boards, with an average income of 2·2 lakhs. The principal source of their income is the land cess. The expenditure in 1903–4 amounted to 2·3 lakhs, including one lakh spent on roads and buildings.

The District Superintendent of police is aided by two Assistants and two inspectors. There are fourteen police stations in the District. The police number 667, including 11 chief constables, 139 head constables, and 517 constables. The mounted police number 12, under 2 *daffadārs*. There are 10 subsidiary jails in the District, with accommodation for 244 prisoners. The daily average number of prisoners in 1904 was 81, of whom 6 were females.

Belgaum stands eleventh among the twenty-four Districts of the Presidency in regard to the literacy of its population, of whom 5·1 (males 9·8 and females 0·3) could read and write in 1901. In 1881 the number of schools was 200, with 12,386 pupils. The latter number rose to 22,064 in 1891; and in 1901 there were 16,239 pupils, of whom 852 were in 47 private schools. In 1903–4 there were 352 schools,

of which 37 were private institutions, attended by 12,927 pupils, including 1,867 girls. Of the public institutions, 2 are high schools, 6 middle, and 307 primary schools. Of the institutions classed as public, one is supported by Government, 220 are managed by local, 30 by municipal boards, and 64 are aided. The total expenditure on education in 1903-4 was 1·38 lakhs, of which Rs. 22,500 was derived from fees, and Rs. 34,000 was contributed by Local funds. Of the total, 75 per cent. was devoted to primary education.

Belgaum District contains one hospital, five dispensaries, and one railway medical institution, accommodating 86 in-patients. In these institutions 48,000 patients were treated in 1904, including 714 in-patients, and 1,386 operations were performed. The total expenditure, exclusive of the railway dispensary, was about Rs. 14,500, of which about Rs. 6,000 was met from municipal and Local funds.

The number of persons successfully vaccinated in 1903-4 was 20,758, representing a proportion of 21 per 1,000 of population, which is lower than the average for the Presidency.

[Sir J. M. Campbell, *Gazetteer of the Bombay Presidency*, vol. xxi (1884); J. F. Fleet, *Dynasties of the Kanarese Districts* (1896); E. Stack, *Memorandum on Land Revenue Settlements* (Calcutta, 1880).]

Belgaum Tāluka.—Central *tāluka* of Belgaum District, Bombay, lying between 15° 41′ and 16° 3′ N. and 74° 2′ and 74° 43′ E., with an area, including the Chandgad petty subdivision (*petha*), of 644 square miles. It contains one town, BELGAUM (population, 36,878), the head-quarters; and 201 villages. The population in 1901 was 137,562, compared with 147,150 in 1891, the decrease being largely due to the ravages of plague. The density, 214 persons per square mile, is about the average for the District. The demand for land revenue in 1903-4 was 1·9 lakhs, and for cesses Rs. 16,000. In the north-west of Belgaum, long sandstone ridges border and in many places cross the central plain. In the west, close to the Western Ghāts, the climate is damp, while to the east it is more pleasant. The annual rainfall is fairly heavy, averaging 52 inches. Round Belgaum town the country is richly cultivated.

Belgaum Town.—Head-quarters of the District of the same name in the Southern Division of the Bombay Presidency, situated in 15° 51′ N. and 74° 31′ E., at an elevation of nearly 2,500 feet above sea-level, on the northern slope of the basin of a watercourse called the Bellary nullah, and on the Southern Mahratta Railway. Population (1901), 36,878, including the cantonment (10,641) and suburbs (3,803). The municipality was established in 1851. During the ten years ending 1901 the income averaged about Rs. 50,000. In 1903-4 the income was Rs. 51,500, chiefly derived from octroi (Rs. 22,000), conservancy rates (Rs. 9,100), and taxes on houses and land (Rs. 4,600). The

expenditure amounted to Rs. 50,000, including general administration (Rs. 6,400), public safety (Rs. 2,300), conservancy (Rs. 15,900), public works (Rs. 4,000), and public instruction (Rs. 9,900). The average receipts of the cantonment funds are Rs. 25,000.

The native town lies between the fort on the east and the cantonment, which extends along its western front, separated from it by a watercourse. It forms an irregular ellipse, approximating to a circle, of which the shorter axis is about 1,300 yards. The rock on which the town is built consists of laterite, lying upon Deccan trap. The site is well wooded. Bamboos, from which Venugrama, the ancient name of the town, is said to be derived, are plentiful, and mangoes, tamarinds, and banyans also abound. The fort, about 1,000 yards in length and 700 yards in breadth and occupying an area of about 100 acres, is surrounded by a broad and deep wet ditch, cut in hard ground. It appears to have been built in 1519 and contains two Jain temples of great interest. The *dargāh* of Asad Khān and the Safa Masjid will also repay a visit. Belgaum was the chief town of a district known as the Belgaum 'seventy' in 1160. About 1205 the Rattas captured it from the Goa Kadambas and made it their capital. In 1250 it passed from the Rattas to the Yādavas. In 1375 the fortress of Belgaum was included in Vijayanagar territory. After being held by Muhammadan rulers the fort passed to the Peshwās about 1754. In 1818, after the overthrow of the Peshwā, the place was invested by a British force. It held out for twenty-one days, after which the garrison of 1,600 men capitulated, having lost 20 killed and 50 wounded, while the British loss amounted to 11 killed and 12 wounded.

Belgaum, since its acquisition by the British, has increased greatly in size and wealth. It was chosen as the civil head-quarters of the District in 1838. It is a military station of the Poona division of the Western Command, and is usually garrisoned by British and Native infantry and a battery of artillery. Of recent years it has suffered severely from recurring epidemics of plague, which have driven many of the residents to remove from the town site and to erect houses in the vicinity. The principal articles of trade are salt, dried fish, dates, coco-nuts, and coir, imported from the sea-coast, chiefly from the port of Vengurla. Grain of all kinds, sugar, and molasses are also brought from the country round. The city contains more than 300 hand-looms for the manufacture of cotton cloth. The water-supply is derived entirely from wells. Besides 9 municipal boys' schools with 980 pupils and 4 girls' schools with 323 pupils, there are two high schools with about 500 pupils, one a Government institution, the other belonging to the Methodist Episcopal Mission. There are also two schools for European and Eurasian boys and a Roman Catholic convent for girls. Belgaum is the residence of the Commissioner of the Southern Division. Besides the ordinary

revenue and judicial offices, the town contains a cantonment magistrate's court and a Subordinate Judge's court, a civil hospital, and a railway dispensary.

Beliapatam.—Village and river in Malabar District, Madras. *See* VALARPATTANAM.

Bellamkonda ('the hill of caves').—Hill fortress in the Sattanapalle *tāluk* of Guntūr District, Madras, situated in 16° 30′ N. and 80° E. The works consist of a single stone wall, connecting the elevated points of the hill and having bastions at the south-east and north-west angles, which terminate the two extremities of the principal front. The entrance, which is in this front, at about a third of its length from the north-west bastion, is gained by a winding pathway from the foot of the hill near the village. In shape, the fort is roughly an equilateral triangle, enclosing an area of irregular elevation of about one-sixteenth of a square mile. The wall is in a very ruinous state, every shower loosening and bringing down parts of it. The two bastions are the most perfect parts, but even these from their overhanging position seem to threaten destruction to everything below. The interior is overgrown with bushes and long grass, which obstruct the passage to the eastern and western faces in many parts. There still remain some buildings of stone, the old magazine and storerooms. The highest point is 1,569 feet above the sea. The early history of the fortress is obscure. It is said to have been constructed by the Reddi kings of KONDAVĪD. After their power had passed away in 1482 it perhaps fell into the hands of the Orissa kings, for Firishta says it was taken by the Sultān of Golconda from a Telugu Rājā who was a vassal of Orissa. In 1531 the Orissa king took the place a second time by a general escalade, regardless of the loss of his best troops. It must afterwards have reverted to the kings of Vijayanagar, for it was finally taken by the Muhammadans in 1578, when they put an end to Hindu rule in this part of the country. At the close of the eighteenth century the English had a few troops stationed at the bottom of the hill in mud huts.

Bellary District (*Ballāri*).—The westernmost of the four CEDED DISTRICTS in the Madras Presidency, lying between 14° 28′ and 15° 58′ N. and 75° 40′ and 77° 38′ E., with an area of 5,714 square miles. It is bounded on the west and north by the river Tungabhadra, which divides it from the Bombay Presidency and the Nizām's Dominions; on the east by Kurnool and Anantapur Districts; and on the south by the State of Mysore.

Physical aspects.

Bellary lies on the northern slope of the Deccan plateau, and the trend of the country is towards the north-east, ranging from an elevation of over 2,000 feet above the sea on the south to about 1,000 feet in the north-east corner. The District is divided east and west by the range of hills in the

midst of which lies the Native State of SANDŪR. To the west the surface of the country is broken by various ranges of small hills, especially in the Kūdligi and Harpanahalli *tāluks*, where the land rises to join the Mysore plateau, and is often well wooded and generally picturesque. To the east lies a vast expanse of level, almost treeless, dreary, black cotton soil, forming two-thirds of the District, which is broken only by two small groups of hills in the extreme north and south, and by those granite masses, springing abruptly from the surrounding country, which form such a characteristic feature of the Deccan. The central rock of these is usually surrounded by loose boulders, sometimes of enormous size, split off by the action of the weather, and of every variety of colouring from warm reds and browns to pale slaty greys. The principal hills outside of Sandūr are those round Kampli, Adoni, and Rāyadrug, and the Copper Mountain range. The Kampli group is an irregular semicircle of barren hills lying to the north of Sandūr on the banks of the Tungabhadra, and is mainly interesting as forming the site and natural fortification of the ancient city of VIJAYANAGAR. The Copper Mountain, so called from mines no longer worked, is a small range 7 miles west of Bellary town, running parallel to the Sandūr hills and rising to a height of 3,285 feet. The hills at Adoni and Rāyadrug, on which stand the ancient forts of those towns, run up to 2,000 and 2,727 feet respectively. With the exception of the Sandūr range, there is very little vegetation on any of these elevations, and no real forest.

The river system of the District consists of the Tungabhadra and its tributaries. The Tungabhadra, formed by the junction of the Tunga and Bhadra, both rising near the south-western frontier of Mysore, skirts the District on its western and northern borders for about 195 miles and eventually falls into the Kistna near Kurnool. During the hot season its stream is low and easily fordable in many places; but from June to October, after the south-west monsoon, the waters rise from 15 to 25 feet and the river in several places exceeds half a mile in breadth. When not fordable, it is crossed (except in heavy floods) by means of coracles made of bamboo frames covered with hides. At Vijayanagar the river passes through a fine granite gorge, and below this its course is studded with rocks which render navigation impossible in the dry season. Its waters abound with crocodiles, and considerable quantities of fish are netted. It is crossed by the Southern Mahratta and Madras Railways at Hosūru and Rāmpuram respectively. The more notable places upon its banks are Vijayanagar, Kampli, and Mailār. The Hagari or Vedāvati, the main tributary of the Tungabhadra in the District, rises in Mysore, and after flowing through the Rāyadrug and Bellary *tāluks* falls into the Tungabhadra at Hālekota. It is a very broad and shallow stream, with a total length of about 280 miles, of which 125 are in this District, and rarely has any flow of

water for more than five months in the year. The sand from its bed, carried by the prevailing south-westerly winds, is perpetually encroaching on the land along its eastern banks. At Moka, 12 miles from Bellary, the sand-beds are nearly 2 miles broad. The channel of the river varies from a quarter to three-quarters of a mile in width, and even at flood-time the water rarely exceeds 4 feet in depth. The Southern Mahratta Railway bridges it at Paramādevanahalli. The Chikka Hagari is a small stream, also rising in Mysore, which, after crossing the western *tāluks*, falls into the Tungabhadra at Kittanūru. Though it comes down occasionally in heavy floods during the monsoons, it is perfectly dry for many months in the year. The irrigation from these rivers is referred to below.

Five-sixths of Bellary is covered with Archaean rocks, granitoid and gneissic, and the little barren hills, characteristic of the Deccan, are formed of these. Superimposed upon them are four well-marked bands of the younger Dhārwār series, which run right across the District from north-west to south-east. The chief of these is the line forming the Sandūr hills, which is remarkable for the immense quantities of rich hematite it contains. There is also an old gold-mine in it. Quartz tops several of the hills, and trap dikes of great length and width are further characteristics of the geology of the District.

In the drier eastern *tāluks* the flora consists largely of such drought-resisting plants as Euphorbias, acacias, and Asclepiads, and the *Acacia arabica* and the *margosa* (*Melia Azadirachta*) are the characteristic trees. In the west the growth is more luxuriant and date-palms flourish in the damper hollows. Over all the waste lands grow the yellow-flowered *Cassia auriculata* and the *Dodonaea*. The chief trees in such forests as the District possesses are referred to under Forests below.

Leopards are fairly numerous in the hills of Sandūr and in the Kūdligi and Harpanahalli *tāluks*, where their depredations on cattle are considerable. Bears are found in the western hills, and hyenas and wolves in Harpanahalli. Wild hog infest the Kampli hills and parts of the Kūdligi *tāluk*, and do much damage to crops. There are also a considerable number of *chinkāra* (gazelle) and antelope in the western *tāluks* and in Adoni, but they are not often to be seen in the flatter eastern *tāluks*. Of the larger game-birds, peafowl and bustard are found in Hadagalli and Harpanahalli. The former are especially common along the banks of the Tungabhadra.

The climate of the District is exceedingly dry throughout and correspondingly healthy. The only parts which are at all malarious are the Kūdligi *tāluk*, where there are numerous hills and tanks (artificial irrigation reservoirs), and the irrigated cultivation along the Tungabhadra. The western *tāluks*, especially Harpanahalli, where the temperature approximates to that of the Mysore plateau, are consider-

ably cooler than the eastern. The average mean of the year at Bellary town is 82°, but this is considerably exceeded at Adoni. RĀMANDRUG, the little military sanitarium on the Sandūr hills, has an average temperature about 12° cooler than Bellary.

Lying almost in the middle of the Peninsula, the District gets rain from both monsoons, but only after their supply is almost exhausted. Though everywhere very light, the fall varies considerably in different parts. It is heaviest at Rāmandrug (39 inches), and the Adoni and Hospet *tāluks* (27 inches) receive a good deal more than the western *tāluks* or Bellary and Rāyadrug. In these last two the average fall is only 19 inches, and they form one of the driest tracts in the Presidency. Rather more than half the year's supply is received during the south-west monsoon. The rainfall is not only small but also very uncertain, and Bellary has suffered constantly from prolonged droughts and frequent deficiencies in the monsoons. Except for famine, it has, however, been peculiarly free of late years from serious natural calamities. In 1804, during the south-west monsoon, there was a series of terrific storms during which hundreds of tanks were breached; and again in 1851 a cyclone swept through the District, washing away several villages, and destroying many roads and irrigation works. The Hagari rose suddenly during this storm and overwhelmed the town of Gūliam on its right bank, drowning many of the inhabitants.

History.

The country round Vijayanagar is the traditional scene of some of the most notable events in the Rāmāyana. Inscriptions show that Bellary was intimately connected with the fortunes of the early dynasties of the Western Chālukyas and their successors the Hoysala Ballālas. But little definite is known of the history of the District before the fourteenth century. In 1336 was founded on the banks of the Tungabhadra, near the present hamlet of Hampi, the famous town of VIJAYANAGAR, 'the city of victory.' The town rapidly became the nucleus of a kingdom, and the kingdom grew into an empire. For two centuries its rulers succeeded in uniting the Hindus of Southern India and holding in check the Musalmāns who were advancing from the north. In 1565, at the battle of Tālikotā, Vijayanagar was utterly overthrown by a combination of the Sultāns of the Deccan. The Musalmān dominion which followed was weak, and the country was split up into small principalities under chieftains known to history as *poligārs*. Locally, their powers were absolute and they used them mercilessly, so that the common people were everywhere ground into the dust. Aurangzeb annexed the dominions of the Musalmān kings; the Marāthās, and after them Haidar Alī of Mysore, followed and seized much of the District; the Nizām's rule succeeded; but through all these changes the *poligārs* continued to hold all local authority, and it was with them that the British had to

deal when the District was ceded to the Company. Bellary had fallen into the power of Haidar Alī of Mysore and his son Tipū in the latter part of the eighteenth century. At the partition of Tipū's territory in 1792, part of the District fell to the Nizām. At the further partition which occurred after Tipū's defeat and death at Seringapatam in 1799, the Nizām obtained the rest of it; but he ceded both portions and other adjoining territory to the British in 1800. Major (afterwards Sir Thomas) Munro was the first Collector of the country so obtained, called the Ceded Districts, which included the present Districts of Cuddapah, Bellary, Anantapur, and much of Kurnool; and his first care was to reduce to order the eighty *poligārs* whom he found within it. Some of these were pensioned and the estates of the remainder were resumed. In 1808 the tract was split into two Districts, Cuddapah and Bellary. The latter then included the present District of Anantapur. This was formed into a separate Collectorate in 1882, and Bellary District as it now stands has thus been a separate Collectorate for only twenty-four years.

More palaeolithic and neolithic settlements and implements have been found in Bellary than in any other District in Madras, and some of them are of great interest. Round Gollapalle in the Rāyadrug *tāluk* are hundreds of kistvaens of the usual pattern, some of which have been found to contain pottery, bones, &c. Jain temples are numerous, and in the western *tāluks* are a number of little Chālukyan shrines, covered with most delicate carving in steatite. These are described and illustrated in Mr. Rea's *Chālukyan Architecture*. At Adoni, Bellary, Rāyadrug, and elsewhere are ancient hill fortresses of much interest. But the most important antiquities in the District are the extensive and impressive ruins, near Hampi, of the great capital of the Vijayanagar empire.

Population.

The District contains 10 towns and 929 villages. It is divided into 8 *tāluks*, the head-quarters of which are at the places from which each is named. Statistics of population according to the Census of 1901 are given in the table on next page.

The principal towns are the two municipalities of BELLARY, the District head-quarters, and ADONI; and the eight Unions of HOSPET, YEMMIGANŪR, RĀYADRUG, KAMPLI, HARPANAHALLI, KOSIGI, KOTTŪRU, and SIRUGUPPA. The population of the District in 1871 was 911,755; in 1881, 726,275; in 1891, 880,950; and in 1901, 947,214. Hindus form 89 per cent. of the total and Musalmāns 10 per cent. The famine of 1876–8 was very severely felt, and it was not until over twenty years afterwards that the population recovered the loss it then suffered. The percentage of increase during the last decade was a little above the average for the Presidency, in spite of considerable emigration to Mysore. The apparent decline in the Hadagalli *tāluk* is due to the total for 1891

having been unduly inflated by the presence of numerous pilgrims at the great festival at Mailār. Bellary is the least sparsely peopled District in the Deccan, the density being as much as 100 per square mile below the Presidency average. Kanarese is the prevailing language in the west and Telugu in the east. On the whole, 57 per cent. of the people speak the former and 30 per cent. the latter tongue.

Tāluk.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Adoni	839	3	191	178,784	213	+ 11·2	6,884
Alūr	686	...	106	98,568	144	+ 11·9	3,666
Bellary	962	2	156	193,401	201	+ 7·2	11,897
Rāyadrug	628	1	71	82,789	132	+ 5·3	2,555
Hospet	540	2	121	101,947	189	+ 10·2	4,939
Hadagalli	585	...	87	92,094	157	− 11·5	4,193
Kūdligi	863	1	116	103,985	120	+ 10·3	4,937
Harpanahalli	611	1	81	95,646	157	+ 16·3	3,981
District total	5,714	10	929	947,214	166	+ 7·5	430,52

The majority of the Hindus are Telugus or Kanarese. Of the Telugus, the Boyas (*shikāris* and cultivators, and formerly the material from which many of the troops of the *poligārs* and of Haidar were raised) are the strongest community, numbering 121,000, or more than in any other District. Then come the Mādiga leather-workers (77,000), followed by the Kāpus, the great agriculturist class (48,000). Among Kanarese castes, the Kurubas (shepherds) are the most numerous (97,000). The Lingāyats, a sect of Hindus who worship Siva and his symbol the *lingam*, and disregard the sacerdotal authority of Brāhmans, number 96,000 (which is nearly two-thirds of the total of the sect within the Presidency). The castes which speak neither Telugu nor Kanarese are divided almost equally between Marāthās, Tamils, and Lambādis, the last of whom, a wandering gipsy community, are more numerous in Bellary than in any other District. The majority of the Musalmāns are Shaikhs, but there are nearly 10,000 of the mixed race of Dūdekulas. By occupation, nearly three-fourths of the total population are agriculturists or shepherds. Weavers are, however, more than usually numerous.

The number of Christians in the District is 5,066, or about five in every 1,000 of the population. About 3,700 of them are natives, and nearly three-quarters are Roman Catholics. The first priest to visit this part of the country was a Father Joachim D'Souza, who came to Bellary from Goa in 1775 and died in 1829. The natives called him Adikanāda, and his memory is still held in veneration. The

Bellary mission continued under the charge of the Goa priests until 1837. In that year a chaplain was appointed by Government for the Roman Catholic troops at Bellary, and under the double jurisdiction which ensued many more churches and chapels were erected than the number of Catholics required. The Goa jurisdiction ceased with the establishment of the regular hierarchy by an apostolic letter of Pope Leo XIII in 1886. The mission is at present under the direction of the Roman Catholic chaplain, assisted by four Fathers from the Missionary Society of St. Joseph, London. The only Protestant mission in the District is that of the London Missionary Society. It was established in 1810 and has a staff of five missionaries, one of whom is a lady.

Agriculture.

The soils of the District are classed as red, mixed, and black; the two former preponderate in the hilly western *tāluks*, and the latter in the level tracts of Bellary, Alūr, Adoni, and Rāyadrug. The red ferruginous soils are derived from the decomposition of the granitic rocks, and are loams of a more or less sandy character. They are much less fertile than the black cotton soil of the eastern *tāluks*. The average depth of this latter is about 4 feet, but a much greater thickness is found in certain localities. In Alūr it is of particular richness, and the rates of assessment there are the highest in the District. A disadvantage, however, is that, owing perhaps to the underlying beds of soft calcareous limestone, trees will not flourish in it and the water in the wells is frequently brackish.

The seasons of cultivation on the red and mixed soils differ altogether from those on the black. On the former, 'dry' crops are sown at the beginning of the south-west monsoon in June; but the latter is held to require the thorough soaking obtainable only from the later rains of that monsoon, and *korra* (*Setaria italica*) and cotton are sown on it in August and other crops in November. On 'wet' lands rice is sown in May and January and sugar-cane in March. Like the other Deccan Districts, Bellary possesses several ingenious agricultural implements which are almost unknown elsewhere, among them the bamboo seed-drill, the bullock-hoe, and the big iron plough used for eradicating deep-rooted grasses.

There are no *zamīndāris* in the District, but more than a fifth of the total area is *inām* land. Of the total of 5,714 square miles, the village accounts give particulars for 5,697. Details by *tāluks* for 1903-4 are given in the table on the next page, areas being in square miles.

The two principal food-grains are *cholam* (*Sorghum vulgare*) and the *korra* already mentioned. The area under the former in 1903-4 amounted to nearly one-third of the total area cropped. Both are

largely grown in all *tāluks*, but are especially favourite crops in Bellary, Alūr, and Adoni in the east. Pulses are grown to a considerable extent; but, except in Rāyadrug, they are usually mixed with the cereals on no fixed principles, and the exact area is not ascertainable. Irrigation being rare, the rice crop is small, occupying only 63 square miles in 1903–4. The chief industrial crop is cotton, grown mainly on the black cotton soil in the four eastern *tāluks* and in Hadagalli. In the red soils of Kūdligi, Harpanahalli, and Hadagalli, large quantities of castor and other oilseeds are raised. Sugar-cane is grown mainly in Hospet, where it occupies 5 per cent. of the cultivated area. It has not yet developed the disease which has appeared in other Districts, and the area under it is steadily increasing.

Tāluk.	Area shown in accounts.	Forests.	Cultivable waste.	Cultivated.	Irrigated.
Adoni	830	59	34	666	7
Alūr	686	25	13	613	1
Bellary	962	29	38	799	8
Rāyadrug	629	40	81	440	22
Hospet	530	131	34	253	27
Hadagalli	587	46	56	432	4
Kūdligi	862	209	130	382	16
Harpanahalli	611	86	43	375	5
Total	5,697	625	429	3,960	90

Except in Kūdligi, the proportion of arable land to the total extent is high, but a considerable amount is still unoccupied, especially in the western *tāluks*. The poorer soils there are frequently cultivated for a single year, and then abandoned and left to recuperate. The area occupied fluctuates considerably owing to the numerous bad seasons which have visited the District, but there has been a net increase during the last thirty years of rather more than 10 per cent. Except for the general introduction of iron ploughs during recent years, little has been done in the way of agricultural improvement. Attempts to introduce foreign varieties of cotton have been unsuccessful; and wells, owing largely to the great expense of constructing them in both the loose cotton soil and the rocky red land, are not popular.

About 6½ lakhs was advanced during the sixteen years following 1888 under the Land Improvement Loans Act. The greater part of this has been spent upon the reclamation of land overrun with deep-rooted grass and prickly-pear (*Opuntia*). Considerable sums have also been borrowed under the Agriculturists' Loans Act for the relief of distress, purchase of seed, and similar purposes.

The indigenous breed of cattle is small and weak. The best draught animals in use in the eastern *tāluks* are brought from Nellore by travelling drovers. In the west, large numbers of cattle are imported

from Mysore and sold at the two great annual fairs on the Tungabhadra at Mailār and Ruruvatti. A fine breed of pack-buffaloes, bred in the Nizām's Dominions, is used in Kampli and the neighbouring villages. Ponies are not raised in the District in any number. There are two varieties of sheep, the black or long-fleeced and the white and reddish-brown long-legged variety. The latter are kept chiefly for their manure and flesh; but the former give a fair wool, which is largely used in Rāyadrug, Kūdligi, and Harpanahalli for the manufacture of the cheap black or black and white blankets which serve the ryot as bed, umbrella, portmanteau, or great-coat, as need may require. Goats are reared in large numbers for both milk and manure.

Cattle for the plough and milch kine are fed mainly on *cholam* stalks and cotton-seed. Sheep and the younger cattle are grazed in forest Reserves and on waste lands. Goats, owing to their destructive habits, are confined to waste lands and roadsides.

The area irrigated in 1903–4 was 90 square miles, or little more than 2 per cent. of the total area under cultivation. This was watered in almost equal proportions from Government channels, from tanks, and from wells. Practically the whole of the irrigation from channels is that fed by the Tungabhadra canals. This river is perennial, and provides the only unfailing source of supply in the District. There are ten dams across it, all of which were originally constructed by the Vijayanagar kings, though English engineers have done much to improve and regulate the supply drawn from them. Near one of them is an inscription recording its construction in A.D. 1521 by the famous king Krishna Deva Rāya of Vijayanagar. The area irrigated by them collectively in 1933–4 was about 17,000 acres, of which 12,500 were in the Hospet *tāluk*. The Tungabhadra runs in a deep bed and the ground slopes down towards it, so that it is impossible for them to command much land. Channels dug annually in the beds of the Hagari and Chinna Hagari irrigate small areas in the Rāyadrug and Kūdligi *tāluks*. The great TUNGABHADRA irrigation project, designed to benefit not only Bellary but several other Districts also, is described in the separate account of that river.

The tanks of the District are usually small, irrigating on an average less than 50 acres apiece. The two largest are the Kanekallu tank in Rāyadrug and the Daroji tank in Hospet. The former, which is supplied by a channel from the Hagari, waters 2,300 acres. The Daroji tank, which is said to have been constructed by Tipū Sultān, has an embankment 2½ miles in length and in some places 60 feet in height. It irrigates about 1,800 acres. Irrigation from wells is commonest in Kūdligi and Rāyadrug. There is room for more of these sources in Harpanahalli and Hadagalli, but in the cotton-soil *tāluks* irrigation is not popular.

Forests.

Though there is a considerable area in each *tāluk* of so-called forest, the Reserves mainly consist of patches of more or less scanty scrub jungle, in which it is hoped that careful preservation extended over a number of years may induce a growth of larger timber. Tradition says that there were originally extensive forests in the District; but none has existed within living memory, and at present the resources of the Reserves are severely taxed to produce even the firewood required locally. Timber and bamboos are largely imported, chiefly from the Nallamalais. The Kūdligi Reserves contain the largest growth, including a small amount of teak. *Anogeissus latifolia*, acacias, *Prosopis*, *Carissa*, and *Terminalia tomentosa* are the commonest forest trees. The growth on the hills in the Sandūr State is finer than anywhere in the District proper; and 40,000 acres of this range are leased from the Rāja at a rental of Rs. 10,000 and worked as part of the Bellary forests. The characteristic tree here is *Hardwickia binata*, one of the hardest and heaviest woods in India. A small amount of sandal-wood and teak is also cut, and it is hoped that it may eventually be possible to supply the Southern Mahratta Railway with fuel from these hills. Like other forest areas in the District they suffer severely from fires, owing to the extreme dryness of the climate.

Very little has been done to exploit the mineral resources of the District, though they are considerable. Iron used until recently to be smelted in small quantities in Hospet and Kūdligi to make boilers for the local manufacture of sugar, but it has now been ousted by the cheaper English product. With greater facilities for obtaining fuel this industry might be enormously extended, as the supply of hematite is unlimited and the Sandūr hills contain what is possibly the richest ore in the whole of India. Manganese deposits also occur on this range, and several beds of mineral pigments. A small quantity of gold has been won in the past by washing in some of the jungle streams in Harpanahalli, but this part of the District has been prospected under European supervision without result. Among building materials may be mentioned seven beautiful porphyries, eminently suitable for decorative work, and the splendid varieties of ribbon jasper which occur in the Sandūr hills. Neither of these has ever been worked.

Trade and communications.

Cotton and silk-weaving are important in all parts of the District, and the proportion of the population engaged in the former industry is unusually large. The cotton stuffs woven are of the ordinary coarse variety; but at the centres of the silk-weaving industry in Kampli, Hampāsāgaram, Rāyadrug, and elsewhere handsome fabrics of various patterns are manufactured, which are exported to the Nizām's Dominions and Bombay. Both the cotton and silk are largely dyed locally. Coloured cotton rugs, manufactured

at Adoni, mainly by Muhammadans, have a considerable sale all over the Presidency and also in other parts of India. Woollen blankets are woven in a large number of villages in the Kūdligi and Harpanahalli *tāluks*, chiefly by Kurubas, the wool being obtained locally. They are exported in large numbers to other Districts. A small amount of ordinary brass-ware is made at Hospet and one or two other villages; and a family or two in the Kūdligi and Harpanahalli *tāluks* make from soapstone small vessels and little images of Basava, the bull in whose form the founder of the Lingāyat sect is worshipped.

There are seven steam cotton-presses or ginning factories in the District, two at Bellary and five at Adoni. The total number of hands employed in 1904 was 660. A spinning mill established at Bellary in 1894, which is fitted with machinery of the latest pattern, employed an average of 520 hands in 1903-4. The number of spindles was 17,800, producing 650 tons of yarn valued at $4\frac{1}{2}$ lakhs. Several tanneries are at work, but the only one of any size is at Rāyadrug, where 45 hands were employed in 1904. About 45,000 skins were dealt with, producing leather valued at Rs. 40,000. A small distillery at Bellary had an out-turn of 32,000 gallons of spirit, valued at Rs. 37,000.

As is natural from its geographical position, the chief trade of Bellary is with Bombay, the Nizām's Dominions, and Mysore, rather than with the rest of the Madras Presidency. From Bombay are imported rice, turmeric, chillies, metal and metal work (especially brass-ware from Hubli); and in return cereals, silk fabrics, cotton carpets, blankets, and jaggery (coarse sugar) are exported. Cattle, rice, timber, and coco-nut oil are received from Mysore, blankets, oilseeds, and cotton stuffs being exported thither. To the Nizām's Dominions Bellary sends *cholam*, jaggery, cotton and silk fabrics, and receives in return chiefly raw cotton. Trade with other parts of the Presidency is principally in manufactured goods, the raw products of the District being sent in exchange. About three-quarters of the total output of cotton is sent to Madras city.

The chief centres of general trade are Bellary, Adoni, and Hospet, the large trade in cotton being confined to the first two of these. Hospet serves as an entrepôt for the exchange of the products of the western *tāluks* with the Dhārwār District of Bombay and the Nizām's Dominions, while a great deal of business with both Mysore and Bombay is transacted at the annual fairs at Mailār and Kuruvatti. From the southern parts of the western *tāluks* large quantities of merchandise are taken to Dāvangere in the Chitaldroog District of Mysore. The ordinary trade is mostly in the hands of the Chetti caste, but a colony of Mārwāris at Bellary controls the export grain trade there. Besides the fairs above mentioned, there are numerous local markets for internal trade. The fees levied at them by the local boards yield about Rs. 7,000 annually.

The north-west line of the Madras Railway (standard gauge) traverses the two eastern *tāluks*, passing through the town of Adoni and leaving the District by a large girder-bridge over the Tungabhadra at Rāmpuram. This section was opened in 1870. At Guntakal, just beyond the borders of Bellary, there is a junction between the Madras and Southern Mahratta Railways. The metre-gauge line of the latter crosses the District in a westerly direction, connecting Guntakal with Bellary and Bellary with Hospet and with Dhārwār in Bombay. Through Guntakal, Bellary is also connected southwards with Anantapur and Bangalore, and to the east with the Districts of Kurnool, Cuddapah, Guntūr, and Kistna. The line from Guntakal to Bellary was finished in 1871, and was originally part of the Madras Railway and on the standard gauge. It was converted to the metre gauge in 1887. Two metre-gauge famine protective lines from Bellary to Rāyadrug and from Hospet to Kottūru, 33 and 38 miles in length respectively, have recently been constructed.

Bellary has 271 miles of metalled and 582 miles of unmetalled roads, all of which are under the management of the local boards. More avenues along them are badly needed, only 112 miles being planted with trees, a shorter length than in any other Madras District except the Nīlgiris. The main routes are the road from Bangalore, which passes through Bellary and Adoni on the way to Raichūr and Secunderābād, and that from Madras to Bombay through Bellary and Hospet. The eastern and western *tāluks* are joined by roads passing to the north and south of the Sandūr hills, and by a third which crosses the State of Sandūr by means of two narrow gorges through the hills which enclose it. Were the roads kept in proper repair, the District would be amply supplied with means of communication; but money for bridges is scarce, and in the cotton-soil *tāluks* road-metal is difficult to obtain.

Famine.

The whole of Bellary lies within the famine zone, irrigation works are few, and any shortage in its scanty rainfall is liable to produce distress. It has in consequence suffered perhaps more than any other District in Madras from severe and protracted famines. There were scarcities in 1802–4, 1805–7, 1824, 1884–5, and 1900; and famines in 1833, 1854, 1866, 1876–8, 1891–2, and 1896–7; and it has been truly said that 'the unfortunate ryot has hardly emerged from one famine before he is submerged under another.'

It has been calculated that during the last half-century alone the expenditure on relief and the loss of revenue due to bad seasons in Bellary have amounted to no less than 196 lakhs. The worst years were 1854, 1866, 1876–8, and 1896–7. In the famine of 1876–8 Bellary was very severely affected; more than a fifth of the population is computed to have perished from starvation or disease, and the mortality in the Adoni and Alūr *tāluks* was as high as one-third. At the Census of 1891, fourteen years after the famine, the population of

the District continued to be less than at the Census of 1871, before this visitation. At the height of the famine one-half of the population were in receipt of relief in one form or other. The supreme difficulty that baffled the authorities was the absolute impossibility of getting grain to an area where the only means of transport was by bullock-cart and there was no fodder for the bullocks. The railways will now prevent the recurrence of such a disaster. The famine of 1896–7 was severely felt in all but the Rāyadrug and Harpanahalli *tāluks*. In July, 1897, about 18,000 persons were receiving gratuitous relief by grain doles and 78,000 were employed on relief works. There was considerable mortality from cholera and measles, but, as far as could be ascertained, no deaths occurred from privation alone.

Administration.

For administrative purposes Bellary is arranged into three subdivisions. The four western *tāluks* of Hospet, Hadagalli, Harpanahalli, and Kūdligi form one charge, known as the Hospet subdivision, under a Covenanted Civilian. The Bellary subdivision, consisting of Bellary and Rāyadrug, and the Adoni subdivision, consisting of Alūr and Adoni, are usually under Deputy-Collectors recruited in India. Besides the eight *tahsīldārs* in charge of these eight *tāluks*, deputy-*tahsīldārs* are stationed at SIRUGUPPA in the Bellary *tāluk* and at YEMMIGANŪR in Adoni; and stationary sub-magistrates at Bellary, Hospet, Kūdligi, and Adoni. The District Forest officer and the District Superintendent of police reside at Bellary, which is also the headquarters of the Inspector of Schools, Second Circle, of the Superintending Engineer, Third Circle, and of the Assistant Commissioner of Salt and Abkāri Revenue, Bellary Subdivision.

For purposes of civil justice, part of Anantapur (which was originally included in the old Bellary District) comes under the jurisdiction of the District Judge at Bellary ; but on the other hand the Adoni *tāluk* is within the Munsifi of Gooty, outside the District, appeals from which area lie to the District Court of Kurnool. There are two District Munsifs, one at Bellary and the other at Hospet. As a rule, fewer cases are dealt with by Village Munsifs in Bellary than in any other District. The number of revenue suits is also extremely small, there being no *zamīndāris* and but few large *ināms*.

The arrangements regarding criminal justice are also anomalous, the Court of Sessions at Bellary taking cognizance of sessions cases in all the *tāluks* of Anantapur except Gooty and Tādpatri, as well as those in Bellary. The Collector and the three divisional officers are first-class magistrates with the usual powers. All *tahsīldārs* and deputy-*tahsīldārs*, as well as the stationary sub-magistrates, have second-class powers, and in some cases the *tāluk sheristadārs* are third-class magistrates. Usually very few of the village magistrates use the petty powers with which they are entrusted.

The distinctive criminal caste of the District is the Korachas, an incorrigible class who wander about in gangs. Several of their gangs have settled permanently in Bellary, and are greatly aided in their depredations by the proximity of the Nizām's Dominions, where they can easily take refuge and are difficult to trace. They are some of the most daring and best-organized dacoits in the Presidency. Murders, which are numerous, are mostly due to village factions. Other crimes, such as cattle-theft, are also common, and are traceable to the natural poverty of the District and the uncertainty of the seasons.

Nothing is definitely known of the revenue system under the Vijayanagar kings, but according to tradition the revenue was paid in kind in the proportion of half the gross produce. The Musalmān governments which followed apparently continued the same system, though, by some method not clearly ascertainable, a minimum amount was fixed as the assessment for the whole region now constituting the Ceded Districts. This was called the *kāmil* assessment, and was retained by Aurangzeb and afterwards by Haidar Alī, though the latter and his son and successor Tipū Sultān increased the revenue by a large resumption of *ināms*. After the overthrow of the Vijayanagar empire, the country was largely in the hands of the *poligārs* already mentioned, through whom a great part of the revenue was nominally collected. The amount which reached the central government naturally varied according to the relative power of the *poligārs*, and the result was an ever-increasing impoverishment of the cultivating classes.

When the Ceded Districts were transferred to the East India Company in 1800, the whole tract was placed in charge of Munro. His first step was to do away with the interference of the eighty or more *poligārs* who were scattered over them, and to introduce a system of direct engagements with every cultivator for the revenue, the assessment varying according to the amount of land occupied. In conjunction with this, he instituted a survey, which ascertained not only the extent of the fields, but also the quality of the different kinds of soil.

While this settlement was in progress, the Government of India directed that, as a preliminary step towards a permanent settlement of the land revenue on the Bengal system, the villages should be leased to renters for a fixed sum for three years, the lessee making his own arrangements with the cultivators. In spite of the strenuous representations of Munro and the opposition of the Governor of Madras, Lord William Bentinck, this system came into force in the Ceded Districts in 1808. Munro had taken leave shortly before this, and, on his departure, the present Districts of Bellary and Anantapur were constituted a Collectorate by themselves. Though the Collector reported very strongly against the triennial leases and their damaging effect on the condition of his charge, an extension in the shape of decennial leases was intro-

duced by order of Government in 1812. The result was a complete failure. The renters were incompetent and merciless, the ryots were contumacious and obstructive, and large numbers of the former became unable to pay their dues to Government. Eventually the Court of Directors ordered a return to the *ryotwāri* settlement on the expiration of the leases, and the immediate surrender of the leases was accepted in all cases where the renters were willing to relinquish them at once. The result of this disastrous experiment was a great reduction in the wealth of the District, the villages being given up by the renters with their resources much impaired. From the introduction of the *ryotwāri* settlement in 1818 down to 1859 there were several general reductions in the assessment, rendered necessary both by a succession of bad seasons and also by the fact that Munro's original settlement had imposed a higher rate than the land was capable of bearing, especially since it was calculated on the basis of the grain prices in force at the beginning of the century and these had since fallen very greatly.

In 1882 seven of the southern *tāluks* were formed into the separate District of Anantapur. A survey and settlement of the remaining *tāluks* which constitute the present Bellary District were carried out between 1884 and 1896. The excess discovered in the cultivated area was about 5 per cent., and the increase in the assessment effected (which was especially lenient in consideration of the infertility of the District and its losses by bad seasons) was Rs. 85,000, or rather less than 7 per cent. The average assessment on 'dry' land in the cotton-soil *tāluks* of Adoni, Alūr, and Bellary is now R. 0–15–7 per acre (maximum Rs. 2–8, minimum 2 annas), and on 'wet' land Rs. 6–14–11 (maximum Rs. 11, minimum R. 1); while in the remaining red soil *tāluks* the average 'dry' rate is R. 0–8–8 (maximum Rs. 2–4, minimum 2 annas), and the average 'wet' rate Rs. 5–6–3 (maximum Rs. 11, minimum R. 1). Owing partly to the small extent of irrigated land, the average extent of a holding is 15 acres, being greater than in any other Madras District except the Nīlgiris.

The revenue from land and the total revenue in recent years are given below, in thousands of rupees :—

	1890-1.	1900-1.	1903-4.
Land revenue . .	18,18	19,63	20,79
Total revenue . .	28,10	30,26	32,30

There are two municipalities in the District, Bellary and Adoni, both established in 1867. Outside their limits local affairs are managed by the District board, and the three *tāluk* boards of Bellary, Hospet, and Adoni, the jurisdictions of which correspond to the subdivisions of the same names. The expenditure of all these boards in 1903–4 was

2½ lakhs, of which nearly half was laid out on roads and buildings. The chief item in the receipts, as usual, is the land cess. Nineteen towns and villages have been constituted Unions under (Madras) Act V of 1884.

The police force is controlled by a District Superintendent and an Assistant Superintendent. In 1904 there were 61 police stations, and the force consisted of 13 inspectors and 1,141 constables, with a reserve of 89 men. There were also 974 rural police working in conjunction with the regular force.

The District jail at Bellary town has accommodation for 323 males and 23 females, exclusive of the observation cells and hospital, which will hold 27 and 36 inmates respectively. As this does not sufficiently provide for the needs of adjoining Districts, from which prisoners are sent to this jail, 100 more cells are being constructed. The only manufacture carried on in the jail is the weaving of the woollen blankets of the country. There are nine subsidiary jails. Seven are situated at the *tāluk* head-quarters (except Bellary), and the other two at the deputy-*tahsīldārs'* stations at Siruguppa and Yemmiganūr. They provide accommodation for a total of 161 prisoners.

As regards education, Bellary is one of the most backward areas in Madras. At the Census of 1901 it stood seventeenth among the twenty-two Districts of the Presidency in the literacy of its male population, and last in that of its females. Persons who could read and write formed only 4·6 per cent. (8·6 males and 0·3 females) of the total. The Bellary *tāluk* contained a considerably higher proportion than any other, but in Rāyadrug only 3 per cent. were returned as literate. The total number of pupils under instruction in 1881–2 was 10,368; in 1890–1, 18,858; in 1900–1, 26,283; and in 1903–4 only 14,861. The number of educational institutions of all kinds in March, 1904, was 627, of which 604 were classed as public, and the remainder as private. Of the former, 11 were managed by the Educational department, 36 by the local boards, and 8 by the two municipalities; 314 received grants-in-aid, and 235, though not aided, conformed to the rules of the department. These institutions included 591 primary, 9 secondary, 3 training and other special schools, and the Wardlaw College at Bellary town. The number of girls in them was 1,504. As usual, the majority of the pupils were only in primary classes. The percentage of boys of school-going age in these classes was 18, and of girls 2. Among Musalmāns the corresponding figures were 19 and 2. There are 13 Panchama schools in the District, with 479 pupils. The total expenditure on education in 1903–4 was 1·22 lakhs, of which Rs. 34,000 was derived from fees. Of the total, Rs. 8,500 was devoted to primary education.

Bellary possesses seven hospitals. Two are maintained by the municipalities; of the other five, which are all kept up by the local

boards, four are at *tāluk* and one at a deputy-*tahsīldār's* head-quarters. They have a total accommodation of 95 beds, 57 for males and 38 for females. The Bellary hospital, founded in 1842, with a small endowment of Rs. 2,500, has 40 beds. There are also five dispensaries maintained by the boards in certain of the larger villages, and two more by the municipality at Bellary. The total number of cases treated in 1903 was 129,000, of whom 900 were in-patients, and 3,000 operations were performed. The total expenditure was Rs. 31,000. There is a hospital for women at Bellary town, built from subscriptions to the Victoria Memorial Fund, and two others are to be opened shortly at Adoni and Hospet.

Vaccination has been efficiently performed in late years. In 1903-4 the number of persons protected was 32 per 1,000 of the population, compared with the average of 30 for the whole Presidency. Vaccination is compulsory in the two municipalities of Bellary and Adoni, but in none of the nineteen Unions.

[For further particulars of the District see the *Bellary Gazetteer*, by W. Francis (1904).]

Bellary Subdivision.—Subdivision of Bellary District, Madras, consisting of the BELLARY and RĀYADRUG *tāluks*.

Bellary Tāluk.—Eastern *tāluk* of the District of the same name, Madras, lying between 14° 57′ and 15° 44′ N. and 76° 40′ and 77° 10′ E., with an area of 962 square miles. The population in 1901 was 193,401, compared with 180,353 in 1891. The *tāluk* contains two towns, BELLARY (population, 58,247), the head-quarters and the capital of the District, and SIRUGUPPA (5,805); and 156 villages. The demand for land revenue and cesses amounted in 1903-4 to Rs. 4,23,000, being the highest in the District. As much as four-fifths of the total area, a higher proportion than in any other *tāluk*, is covered with black cotton soil, the remaining fifth being red land. Except in the extreme south, where it is bounded, and in places broken up, by the spurs of the Copper Mountain, it forms a wide level expanse diversified only by low granite hills. It slopes north and north-eastwards towards the Tungabhadra and the Hagari; the Pedda Vanka, one of the streams which carry its drainage into the latter, is of a respectable size. It is the largest, most populous, and best-educated *tāluk* in the District; and it contains the highest proportion of Musalmāns, nearly four-fifths of all the Christians, and an unusual number of the few Jains who are found there. More than half the population speak Kanarese, only a fifth speaking Telugu. The land served by the Tungabhadra channels about Siruguppa is the most fertile in the District. *Cholam* and *korra* are the staple crops, but the area under cotton is large and a considerable amount of *cambu* is grown. The forest area is smaller than in any *tāluk* except Alūr, and the rainfall is the lightest in the District.

Bellary Town.—Head-quarters of the District and *tāluk* of the same name, Madras, situated in 15° 9′ N. and 76° 51′ E. It is one of the chief military stations in Southern India, and is garrisoned by both British and Native troops. The force maintained is, however, considerably smaller than it used to be. Bellary is the seventh largest town in the Presidency. Its population in 1871 was 51,766; in 1881, 53,460; in 1891, 59,467; and in 1901, 58,247. The growth has thus been slow. The decline during the last decade was due to the removal of some of the troops. In 1901, 60 per cent. of the inhabitants were Hindus and 32 per cent. Musalmāns; Christians numbered about 4,000.

The town stands in the midst of a wide, level plain of black cotton soil. The Southern Mahratta Railway passes through it, connecting it with Hubli on the west and with Guntakal junction on the east, by which route it is 305 miles from Madras. It also lies on the trunk road from Bangalore to Secunderābād. The most conspicuous objects are the Fort Hill and the Face Hill, the latter so called from the resemblance of certain rocks on its summit to a human face. They are bare, rocky elevations with hardly any vegetation on them. The fort on the former gave Bellary its ancient importance and led to its selection as the site of a cantonment. This fortress consists of an upper citadel on the rock, the top of which is 1,976 feet above the sea, and a lower enclosure at the foot. The citadel is guarded by three lines of strong fortifications, which are still in excellent repair, and contains a number of substantial buildings and an ample water-supply from reservoirs constructed in the clefts of the rocks. There is only one way up, which is strongly defended. The lower fort is surrounded by a rampart with numerous bastions, faced by a deep ditch and glacis. Magazines, the quarters of the guard in charge of them, the chief church of the civil station, and several public offices and schools are built within this. It used also at one time to contain an arsenal. The town includes the civil station to the east of the fort, the cantonment on the west, and on the south, between these two areas, the Cowl Bazar and the suburbs of Bruce-pettah and Mellor-pettah, named after two civil officers once stationed at Bellary.

Until the British made Bellary a cantonment it contained little but its fort. This was originally the residence of a chieftain called Hanumappa Naik, whose family held it as vassals of the kings of Vijayanagar and afterwards of the Sultāns of Bijāpur. About 1678 it was taken from them by the famous Marāthā chief Sivajī, because as he was passing that way some of his foragers had been killed by the garrison; but he restored it again at once on condition that tribute should be paid him. About 1761 it became tributary to Basālat Jang of ADONI. The chief quarrelled with Basālat Jang and refused to pay tribute. The place was accordingly besieged by a force from Adoni. The chief applied for aid to Haidar

Alī, who made a wonderful forced march, which has been graphically described by Wilks, and routed the Adoni troops. He then, however, seized it for himself and erected the present fortifications. Tradition says that they were designed by a Frenchman in Haidar's service, and that Haidar, finding the fort was commanded by the Face Hill, hanged him afterwards at the main guard gate. The fort was in the possession of Mysore until 1792, when, with others of Tipū's territories, it was given to the Nizām. The Nizām ceded it to the British with the rest of the District in 1800. It did not become the head-quarters of the District until 1840, the Collector until that year living at ANANTAPUR.

Though Bellary is situated 1,400 feet above the sea, its climate is hot and very dry, but it is considered a healthy town. Its great want is a proper water-supply, and it is hoped that the completion of the great irrigation project connected with the TUNGABHADRA will supply this. Besides being the head-quarters of the District staff, it is also the residence of a Superintending Engineer and an Inspector of Schools. A company of the Southern Mahratta Railway Volunteer Rifles is also located here, and the town is the head-quarters of the Roman Catholic Mission and of the London Mission. It contains a District jail, with accommodation for 346 prisoners.

The chief educational institution is the Wardlaw College, which was founded as a school in 1846 by the Rev. R. S. Wardlaw, D.D., of the London Mission, and was raised to a second-grade college in 1891. It is the only Arts college in the Ceded Districts. In 1903–4 it had an average daily attendance of 319 students, of whom 17 were in the F.A. class. A high school is maintained by the municipality; and there is a technical class at St. Philomena's high school managed by the nuns of the Order of the Good Shepherd, the pupils of which are almost all Europeans or Eurasians.

Bellary was created a municipality in 1867. The receipts and expenditure during the ten years ending 1902–3 averaged Rs. 80,000 and Rs. 85,000 respectively. The income in 1903–4 was Rs. 1,17,000, and the expenditure Rs. 90,000. Of the former, Rs. 44,000 was contributed by Government, and the rest was principally derived from the house and land taxes and tolls, while the chief items of expenditure included conservancy, roads and buildings, and education. The municipal hospital, known as the Sabhāpati Mudaliyār Hospital, was founded in 1842 and has forty beds. The building was presented by the gentleman whose name it bears. There are two other dispensaries. The industries of Bellary include a small distillery, two steam cotton-presses, and a steam cotton-spinning mill. The latter, established in 1894 and fitted with machinery of the latest pattern, employs 520 hands. The number of spindles is 17,800.

Bellāvi.—Town in the Tumkūr *tāluk* of Tumkūr District, Mysore,

situated in 13° 25′ N. and 77° 1′ E., 9 miles north-west of Tumkūr town. Population (1901), 1,669. A great weekly fair is held here, on which all the surrounding country depends, and which is an important mart for exports. The streets are wide, with uniform shops on either side. The municipality formed in 1870 was converted into a Union in 1904. The receipts and expenditure during the ten years ending 1901 averaged Rs. 960 and Rs. 700. In 1903–4 they were Rs. 1,000 and Rs. 2,700 respectively.

Belūr.—North-western *tāluk* of Hassan District, Mysore, lying between 12° 58′ and 13° 19′ N. and 75° 44′ and 76° 7′ E., with an area of 339 square miles. The population in 1901 was 79,192, compared with 75,470 in 1891. The *tāluk* contains one town, Belūr (population, 3,862), the head-quarters; and 410 villages. The land revenue demand in 1903–4 was Rs. 1,81,000. The west is a part of the Malnād, and for a short distance is bounded by the Hemāvati river. The Yagachi flows through the centre in a south-easterly direction, being joined in the north by the Berinji-halla. In the forests of the hill country to the west are coffee plantations, while rice is grown in the valleys. In the east are rocky hills, either bare or covered with scrub jungle. The centre is more level, with either gravelly and grassy plains, or stretches of rice land. Some small channels are drawn from the Yagachi and the streams falling into it. The soils are poor in the west but improve eastwards, much of the best description being around Halebīd and Belūr. In the south-west the high ground, instead of sloping gradually to the lower, drops abruptly in perpendicular scarps 50 to 100 feet high. Good tobacco is grown in the east.

Bemetāra.—Northern *tahsīl* of the new Drug District of the Central Provinces, which was constituted in 1906 from portions of Raipur and Bilāspur. The *tahsīl* lies between 21° 20′ and 22° 0′ N. and 80° 43′ and 82° 2′ E., and contains portions of three former *tahsīls*. A tract of 363 square miles was taken from the west of the Mungelī *tahsīl* of Bilāspur; 614 square miles comprised in six *zamīndāri* estates were transferred from the old Drug *tahsīl*; and 589 square miles were transferred from the Simgā *tahsīl* of Raipur. The Bemetāra *tahsīl* is an irregularly shaped tract, nearly cut in two by the Khairāgarh State. Its area is 1,566 square miles, and the population of the tract now constituting the *tahsīl* was 240,843 persons in 1901, compared with 290,238 in 1891. The density is 154 persons per square mile, and there are 874 inhabited villages. The head-quarters are at Bemetāra, a village of 1,197 inhabitants, 47 miles from Drug town by road. It includes the six *zamīndāri* estates of Sahaspur-Lohāra, Silhetī, Barbaspur, Gandai, Thākurtolā, and Parporī, with a total area of 614 square miles and a population of 48,327 persons. About 308 square miles in the *zamīndāris* are forest, but there are no Government Reserves. The western portion of the *tahsīl*

consists of a fertile and closely cultivated black soil plain, while in the east the *zamīndāri* estates border on the Sātpurā Hills. The demand for land revenue in 1902-3 on the area now forming the *tahsīl* was approximately 1·90 lakhs.

Benares Division.—South-eastern Division of the United Provinces, lying between 23° 52′ and 26° 12′ N. and 82° 7′ and 84° 39′ E. The northern portion is traversed by the Ganges and in the east reaches to the Gogra, while the southern extends beyond the Kaimur range and the river Son to the East Sātpurās. The head-quarters of the Commissioner are at Benares city. Population increased from 1872 to 1891, but fell during the next decade. The numbers at the last four enumerations were as follows: (1872) 4,395,252, (1881) 5,178,005, (1891) 5,368,480, and (1901) 5,069,020. There is reason to believe that the Census of 1872 understated the actual population. The decrease between 1891 and 1901 was due partly to an epidemic of fever following disastrous floods in 1894, partly to emigration, and partly to the effects of famine. The total area is 10,431 square miles, and the density is 486 persons per square mile, as compared with 445 for the Provinces as a whole. The Districts north of the Ganges include the most thickly populated area in the United Provinces. In 1901 Hindus formed more than 91 per cent. of the total population, and Musalmāns not quite 9 per cent. There were 2,949 Christians and 1,984 Sikhs. The Division contains five Districts, as shown below:—

	Area in square miles.	Population, 1901.	Land revenue and cesses, 1903-4, in thousands of rupees.
Benares . .	1,008	882,084	10,45
Mirzāpur . .	5,238	1,082,430	9,93
Jaunpur . .	1,551	1,202,920	14,60
Ghāzīpur . .	1,389	913,818	12,10
Balliā . .	1,245	987,768	8,43
Total	10,431	5,069,020	55,51

This is the only considerable area in the United Provinces of which the revenue is permanently settled. Balliā District lies entirely in the Doāb between the Ganges and Gogra, which form its northern and southern boundaries and meet at its eastern extremity. Jaunpur District is situated in the same Doāb, but does not reach either of the rivers. Ghāzīpur, Benares, and Mirzāpur lie on both sides of the Ganges; but while the first two Districts are situated entirely in the alluvial plain, Mirzāpur stretches many miles south to the Vindhyas and East Sātpurās. There are 13,654 villages and only 38 towns; and the Division is remarkable for the number of small hamlets in almost every village, contrasting with the closely-packed central village sites of the Western

Districts in the United Provinces. The largest towns are: BENARES (population, 209,331 with cantonments), MIRZĀPUR (79,862), JAUNPUR (42,771), and GHĀZĪPUR (39,429). There are few places of commercial importance, the chief being Benares, Mirzāpur, Ghāzīpur, Jaunpur, SHĀHGANJ, and AHRAURĀ. Benares is one of the holiest centres of Hinduism, especially to the worshipper of Siva; and some interesting Buddhist remains have survived at SĀRNĀTH near it. Jaunpur was the seat of a powerful kingdom during the fifteenth century, and contains fine specimens of the Muhammadan buildings of that period.

Benares District (*Banāras*).—District in the Division of the same name, United Provinces, lying between 25° 8′ and 25° 35′ N. and 82° 40′ and 83° 33′ E., with an area of 1,008 square miles. Benares is bounded by Jaunpur and Ghāzīpur on the north; by the Shāhābād District of Bengal on the east; by Mirzāpur on the south; and by Jaunpur and Mirzāpur on the west. The District is part of the alluvial valley deposited by the river Ganges, and forms an irregular parallelogram, divided by the sacred stream. On each bank of the river is found a high ridge of coarse gravelly soil, mixed with *kankar* or nodular limestone, and scored by ravines. East of the Ganges the surface dips rapidly, and a large portion of this tract is under water during the rains, and is generally marshy. On the opposite bank the level is more uniformly maintained.

Physical aspects.

The Ganges first touches the District on the southern boundary, and after crossing it in a series of bold curves, with a general direction from south-west to north-east, leaves the northern border, at the point where it receives the Gumtī, which forms the northern boundary for about 22 miles. Two small streams, the Barnā and Nānd, drain the area on the left bank of the Ganges. The Karamnāsā skirts the south-eastern border; it becomes a heavy stream after rain, and is subject to sudden floods, but is almost dry during the hot months. The District contains many small marshy lakes or *jhīls*, some of which attain a length of several miles during the rains, but most of them are almost dry in the summer.

Benares lies entirely in the Gangetic alluvium, and *kankar* is the only stone found. Saline efflorescences called *reh* are not uncommon, especially in the Chandaulī *tahsīl.*

The flora of the District presents no peculiarities. The mango and bamboo are largely planted, and fine groves are numerous. Fruit is also largely grown, and Benares is famous for its mangoes and guavas. There is very little jungle.

Owing to the absence of uncultivated land, the wild animals found here are not important. A few antelope are seen north-east of the Ganges and along the Karamnāsā. Wild-fowl congregate in numbers on the rivers and lakes. Fish are caught abundantly in the Ganges.

The climate, except in the cold season, is moist and relaxing, and resembles that of Bengal. Even during the winter months the cold is much less marked than in the Districts farther west. In summer, though the heat is great, the west winds blow intermittently; but during the rains a fairly constant east wind prevails. The mean monthly temperature ranges from about 60° in January to 92° in May and June.

The annual rainfall over the whole District averages nearly 40 inches, varying from 38 in the west to 41 in the east. Fluctuations from year to year are occasionally considerable, but are not so violent as in Districts farther west. In 1876 the fall was only 26 inches, while in 1894 nearly 64 inches were received.

History.

Before the Muhammadan invasion BENARES CITY was at times the capital of a kingdom; but the records of the early period are vague and unreliable. Tradition relates that aboriginal races, such as the Bhars and Koirīs, once held the District; but in the twelfth century they certainly owed allegiance to the Rājā of Kanauj. Benares fell into the hands of Muhammad Ghorī after the defeat of Jai Chand, and a governor was appointed to dispense justice and repress idolatry. In the fifteenth century the District formed part of the separate kingdom of Jaunpur till its fall; and in the struggles of the next century between Mughal and Pathān it suffered much. Under Akbar it was included in the *Sūbah* of Allahābād, and enjoyed a period of peace until the eighteenth century, when it shared in the troubles that attended the fall of Mughal power. About 1722 the greater part of the present Benares Division was included in the territory governed by Saādat Khān, the first Nawāb of Oudh, who sublet it to Mīr Rustam Alī. The latter was expelled in 1738; and the grant was transferred to his agent, Mansā Rām, an ancestor of the present Mahārājā, who had already acquired a fort in Jaunpur.

Mansā Rām died in 1739; but his son, Balwant Singh, in whose name the grant had been made and who had received the title of Rājā, successfully followed his father's policy. Through a long course of years he endeavoured to make himself practically independent of the Nawāb, his lord-paramount, by building or seizing a line of fortresses on a strong strategical base south of the Ganges. Step by step he acquired new strips of territory, and strengthened each acquisition by fresh military works.

In 1763 the Rājā joined the emperor, Shāh Alam, and the Nawāb, Shujā-ud-daula, in their invasion of Bengal. After the disastrous battle of Buxar, however, he went over to the British camp and prudently sought the protection of the conquerors. By an agreement of 1764, Balwant Singh's estates were transferred from Oudh to the Company; but the transfer was disapproved by the Court of Directors, and in 1765 the Benares territory was restored to Oudh, the Nawāb consenting to

guarantee the Rājā in the quiet enjoyment of his possessions. Balwant Singh died in 1770, and the Nawāb endeavoured to use the opportunity thus afforded him of dispossessing his powerful vassal. The British, however, compelled him to recognize the succession of Chet Singh, an illegitimate son of the late Rājā. Five years later, the Nawāb ceded the sovereignty of the Benares estate to the British, who confirmed Chet Singh in his holding by *sanad*, dated April 15, 1776.

In 1778 a contribution of 5 lakhs was levied upon Chet Singh for the maintenance of a battalion of sepoys; similar demands were made in 1779 and 1780. In the latter year, British power in India being then threatened with a simultaneous attack on the part of Haidar Alī, the Nizām, and the Marāthās, the Governor-General, Warren Hastings, called upon the Rājā to furnish a cavalry contingent of 1,500 men. The Rājā returned evasive answers, but did not send a single trooper. For this conduct Hastings determined to inflict upon him a fine of 50 lakhs. In August, 1781, he arrived in person at Benares, and finding Chet Singh still insubordinate, gave orders that he should be arrested in his own house. A riot occurred, the little body of British troops was attacked and easily overcome, the Rājā fled to one of his strongholds, and a general rising took place in the city. Hastings, shut up with his slender retinue in Benares, found himself in a most critical position, from which he extricated himself by flight to Chunār. The Rājā remained in open rebellion till the end of September, when the British troops dispersed his followers. The Governor-General then returned to Benares, deposed Chet Singh, and recognized his nephew, Mahīp Nārāyan, as Rājā. Chet Singh retired to Gwalior, where he died in 1810. The criminal administration of the whole estate and the civil and criminal administration of the city were taken from the Rājā and assumed by the Company. For the later history of the family, see BENARES ESTATE. When Wazīr Alī, Nawāb of Oudh, was deposed by the British in 1798, he received orders to live at Benares. In January, 1799, he attacked Mr. Cherry, the Governor-General's Agent, and murdered him with two other officers. The Magistrate, whom he proceeded to assail, defended himself in his house till the cavalry arrived from Bitābar and rescued him. Wazīr Alī escaped at the time, but was subsequently given up and confined for life in Calcutta[1].

From this period British rule was never seriously disturbed till the Mutiny of 1857. News of the outbreak at Meerut reached Benares on May 15. The 37th Native Infantry at once became disorderly, and it was determined to disarm them on June 1. They replied to the order with a volley; but when it was returned they shortly dispersed. The Sikhs and the Irregular Cavalry joined the mutineers. The civil officers, however, held the mint and the treasury, and the rebellion went

[1] *Vizier Ali Khan, or the Massacre of Benares* (1844; reprinted at Benares).

farther. Parties of Europeans passing up from Calcutta to the north-west sufficed to keep the city quiet, though in the District some disturbances took place. Early in June the Rājputs of Jaunpur marched to attack Benares, but on June 17 they were cut to pieces by a British force. Next day the erection of the fort at Rājghāt was commenced on a site which commands the whole city, and no breach of the peace afterwards occurred.

Ancient remains are found in many places, the oldest being the group of Buddhist ruins at SĀRNĀTH. The famous temples of BENARES CITY are not conspicuous for architectural beauty or for antiquity; and the finest, together with the magnificent line of stone bathing *ghāts* along the Ganges, date principally from the eighteenth century.

Population.

The District contains 4 towns and 1,972 villages. Its population increased between 1872 and 1891, and then decreased owing to a series of bad seasons. The numbers at the last four enumerations were as follows: (1872) 794,039, (1881) 892,684, (1891) 921,943, and (1901) 882,084. It is probable that the Census of 1872 understated the population. There are three *tahsīls*—BENARES, GANGĀPUR, and CHANDAULĪ—each named from its head-quarters. BENARES CITY is the administrative capital, and RĀMNAGAR, the residence of the Mahārājā, is the only other town of importance. The following table gives the chief statistics of population in 1901:—

Tahsīl.	Area in square miles.	Number of		Population.	Population per square mile.	Percentage of variation in population between 1891 and 1901.	Number of persons able to read and write.
		Towns.	Villages.				
Benares . .	464	2	989	557,541	1,202	− 3·9	41,757
Gangāpur .	118	...	280	86,703	735	− 3·6	2,895
Chandaulī .	426	2	703	237,840	558	− 5·4	8,463
District total	1,008	4	1,972	882,084	875	− 4·3	53,115

The density of population is extremely high, being nearly double that of the United Provinces as a whole. Hindus form more than 89 per cent. of the total, and Musalmāns more than 10 per cent. The language in common use is Bihārī, which is spoken by 90 per cent. of the population, while Western Hindī (chiefly Hindustāni) is spoken by 7 per cent. Owing to its religious reputation, there are large numbers of persons speaking Bengali, Marāthī, and Gujarātī in Benares city.

The most numerous Hindu castes are: Brāhmans, 98,000; Chamārs (leather-workers and cultivators), 97,000; Kurmīs (agriculturists), 83,000; Ahīrs (agriculturists), 81,000; Rājputs, 53,000; and Koirīs (cultivators), 42,000. Among the castes found chiefly in the east of the United Provinces are the high-caste Bhuinhārs, who claim to be

Brāhmans, 18,000; Bhars (an aboriginal tribe), 38,000; Luniās (labourers), 15,000; and Gonds (corresponding to Kahārs elsewhere), 12,000. Among Muhammadans the castes and tribes chiefly represented are the Julāhās (weavers), 28,000; Shaikhs, 26,000; and Pathāns, 10,000. The principal landholders are Brāhmans, Bhuinhārs, Rājputs, various money-lending castes, and Kāyasths. Agriculture supports 57 per cent. of the total population, and general labour 6 per cent.

There were 669 native Christians in 1901, of whom 380 belonged to the Anglican communion. The Church Missionary Society commenced work here in 1818, and the London Missionary Society two years later. The Baptist and Wesleyan Societies also have branches.

Agriculture.

The characteristic features of the portion of the District east of the Ganges are the absence of drainage and the clay soil in the centre. Rice cultivation is thus more important here than in the tract west of the river, and in ordinary years the spring crops are largely grown without irrigation. In the extreme east the soil turns to *mār*, the black soil of Bundelkhand. West of the Ganges the soil is lighter, and not so liable to waterlogging. The whole District is very closely cultivated. In the cold season the spring crops are often liable to attacks of rust.

In the portion of the District outside the BENARES ESTATE the ordinary tenures are found, *zamīndāri mahāls* numbering 2,688, and *pattidāri* 1,972. Some of the *mahāls* are of the variety known as complex, which comprise portions of a number of separate villages. There are also tenants at fixed rates, who have a transferable as well as a heritable right, and under-proprietors called *mukarrarīdārs*, who hold permanent leases. The main agricultural statistics for 1903-4 are given below, in square miles:—

Tahsīl.	Total.	Cultivated.	Irrigated.	Cultivable waste.
Benares . . .	464	326	159	59
Gangāpur . . .	118	85	45	14
Chandaulī . . .	426	332	89	33
Total	1,008	743	293	106

Rice and barley are the chief food-crops, covering 162 and 152 square miles respectively, or 25 and 23 per cent. of the net area cropped. Gram (77 square miles) and wheat (60) come next in importance; *jowār*, maize, *bājra*, and *sāwān* are also grown. Maize is a favourite crop in the neighbourhood of the city and near village sites. Sugar-cane was grown on 21 square miles, hemp (*san*) on 17, and the District also produces poppy and oilseeds.

Between 1840 and 1880 the total cultivated area (excluding the

Gangāpur *tahsīl*) increased by only about 4 per cent. The principal change in this period was the replacement of sugar by rice and hemp (*san*), and there have been no striking alterations since. As a rule, few or no advances are made under the Loans Acts, but in 1896-7 Rs. 7,400 was lent.

The cattle of the District are very poor, and when better animals are required they are imported. The ponies are also inferior, and there is no peculiar breed of sheep or goats.

In 1903-4, 187 square miles were irrigated from wells and 59 from tanks. The tanks are chiefly natural depressions or *jhīls*, and are used in October and November for rice cultivation, and later for the spring crops and for sugar-cane if the water is not exhausted. Wells can be made in most parts of the District, and are chiefly worked by bullocks. The rivers are hardly used at all for irrigation, as the lowlands in their beds do not require it, and the expense of raising water to a higher level would be prohibitive.

Kankar, or calcareous limestone, is the only mineral product, and is used for metalling roads and for making lime.

Trade and communications.

Excluding the city of Benares, there are few manufactures, and these are confined to the preparation of a few classes of articles for local use, the weaving of coarse cotton cloth being the most important. The city is, however, celebrated for gold and silver jewellery, ornamental brass-work, embroidery, and silk-weaving. It also contains three ice factories, several printing presses, two chemical works, and two brick-making concerns.

There is little surplus agricultural produce in the District, and oilseeds are perhaps the most important export. The manufactures of the city are, however, largely prepared for outside markets. The imports include piece-goods, salt, and metals. Benares city is the only trade centre, and absorbs a large part of the produce of the District, while it is the chief place for the distribution of imported goods. Railways have now taken the place of roads as trade-routes, and there is little traffic on the river except the carriage of stone and fuel from Mirzāpur.

The District is exceptionally well served by railways and roads. The main line of the East Indian Railway traverses the eastern portion, and at Mughal Sarai gives off a branch to Gayā in Bengal. Mughal Sarai is also the terminus of the Oudh and Rohilkhand Railway, which crosses the Ganges by a magnificent bridge, and then divides into two branches at Benares, and serves the western half of the District. Benares is the terminus of a branch of the Bengal and North-Western Railway which runs north. There are 577 miles of road, of which 127 are metalled. The latter are maintained by the Public Works department, but the cost of all but 51 miles is charged to Local funds. The main lines are: the grand trunk road, which traverses the south of the

District, crossing the Ganges at Benares; and a series of roads radiating from Benares city to Jaunpur, Azamgarh, and Ghāzīpur. Avenues of trees are maintained on 262 miles.

Famine.

Benares District suffers like its neighbours from drought, and from its natural consequence, famine; but it is less severely affected than the regions south or west of it. In 1770 Benares was visited by the famine which devastated Bihār and Northern Bengal. In 1783, though the dearth was more marked in the western Districts, Hastings described the country from Buxar to Benares as devastated, and serious riots took place. There was little distress in 1803–4, though bounties were given to encourage the import of grain from Bengal. The famines of 1837–8 and 1860–1 were also not felt here severely. High prices caused distress in 1869, in 1874, and in 1877–9, but to a much smaller degree than elsewhere. The monsoon of 1896 ceased prematurely, and the important rice crop yielded only one-eighth of the normal. Prices rose very high; but the distress was mainly confined to artisans and those who were unable to labour, and the numbers on the relief works opened did not reach 4,000, though 12,000 persons were in receipt of gratuitous relief.

Administration.

The Collector is usually assisted by a member of the Indian Civil Service, and by five Deputy-Collectors recruited in India. A *tahsīldār* is stationed at the head-quarters of each *tahsīl*.

The civil courts of the District are those of the Munsif, Sub-Judge, Small Cause Court Judge, and District Judge; but these have no jurisdiction within the Benares Domains in cases which are in any way connected with land. The District Judge is also the Sessions Judge. Murders are not uncommon, and agrarian quarrels often lead to riots. Professional dacoity is rare. The Bhars, Musahars, and Doms of this District commit dacoities in Eastern Bengal. Infanticide was formerly suspected, but no villages are now proclaimed under the Act.

After the cession to the British in 1775 the revenue administration was carried on for some years by the Rājā, who paid a fixed subsidy to the British Government. In 1787 Mr. Jonathan Duncan, afterwards Governor of Bombay, was appointed Resident at Benares, and was impressed by the mismanagement and extortion which prevailed. Reforms were commenced in the following year, and a settlement was made in which the annual value of each village was ascertained by applying rates calculated on the average produce. The *āmil's* (native collector) fees of 10 per cent. and banker's dues were deducted, and half the balance was taken as revenue. The term then fixed was four years in part of the District and ten years in the remainder. In 1791–2 the Decennial Settlement was extended to the tract where engagements for a shorter period had been taken, and in 1795, with a few revisions,

the whole settlement was declared permanent. In 1818 the Districts of Ghāzīpur (then including Balliā) and Jaunpur were formed, and in 1830 Benares was still further reduced by the formation of Mirzāpur District. The permanent settlement had not been based on a survey, and no detailed record-of-rights was prepared, engagements being often taken from a few representatives of large bodies of co-sharers. Between 1833 and 1841 a survey was made, field maps were prepared, and detailed records drawn up. A second formal revision was made between 1882 and 1886, since which time annual papers have been prepared as in the rest of the Provinces. The revenue assessed in 1795 on the two *tahsīls* outside the Benares Domains was 7·9 lakhs, which by 1843 had risen to 8·2 lakhs, owing to the assessment of alluvial land and resumption of revenue-free grants. In 1903–4 the demand was 7·7 lakhs, and the demand in the Gangāpur *tahsīl* was 1·2 lakhs.

Collections on account of land revenue and total revenue have been, in thousands of rupees:—

	1880–1.	1890–1.	1900–1.	1903–4.
Land revenue . .	8,95	9,02	9,04	8,98
Total revenue . .	13,93	18,67	20,34	21,13

Benares is the only municipality in the District, but there are two towns administered under Act XX of 1856. Outside of these, local affairs are managed by the District board, which had an income of 1·1 lakhs in 1903–4, about one-third of which was derived from local rates. The expenditure on roads and buildings amounted to Rs. 60,000, out of a total expenditure of 1·2 lakhs.

The District Superintendent of police has a force of 4 inspectors, 121 subordinate officers, and 619 men, distributed in 22 police stations, besides 424 municipal and town police, and 1,460 rural and road police. There is a large Central jail with a daily average of 1,292 prisoners in 1903, while the District jail contained 411.

The District of Benares contains a higher proportion of persons able to read and write than any other in the United Provinces, except the Himālayan Districts. In 1901, 4·9 per cent. of the population (11·2 males and 0·8 females) were literate. The peculiar conditions of Benares city are largely responsible for this. The number of public institutions fell from 142 with 6,933 pupils in 1880–1 to 92 with 5,274 pupils in 1900–1. In 1903–4 there were 209 such institutions with 12,006 pupils, of whom 1,165 were girls, besides 130 private institutions with 3,471 pupils, including 879 girls. Three colleges and a collegiate school are maintained in BENARES CITY, but the majority of schools are of the primary class. Four schools and colleges are managed by Government, and 118 by the District and Municipal boards. The total

expenditure in 1903–4 was 1·3 lakhs, of which Provincial revenues contributed Rs. 58,000, Local funds Rs. 29,000, and fees Rs. 25,000.

There are 11 hospitals and dispensaries, with accommodation for 330 in-patients. In 1903 the number of cases treated was 124,000, including 3,819 in-patients. The total expenditure was Rs. 27,000, chiefly met from Local funds.

In 1903–4 the number of persons successfully vaccinated was 26,000, representing a proportion of 28 per 1,000 of population. Vaccination is compulsory only in the municipality and cantonment of Benares.

[*District Gazetteer* (1884, under revision); F. W. Porter, *Survey and Revision of Records in Benares District* (1887); A. Shakespear, *Selections from the Duncan Records* (Benares, 1873).]

Benares Tahsīl.—Northern *tahsīl* of Benares District, United Provinces, comprising the *parganas* of Dehāt Amānat, Kaswār Sarkār, Pandrah, Katehir, Sultānīpur, Kol Aslah, Athgānwān, Shivapur, and Jālhūpur, and lying between 25° 12′ and 25° 35′ N. and 82° 40′ and 83° 12′ E., with an area of 464 square miles. Population fell from 580,467 in 1891 to 557,541 in 1901. There are 989 villages and two towns, including BENARES CITY (population, 209,331), the District and *tahsīl* head-quarters. The demand for land revenue in 1903–4 was Rs. 4,94,000, and for cesses Rs. 77,000. The density of population, 1,202 persons per square mile, is considerably above the District average, owing to the inclusion of a large city. The *tahsīl* forms an elevated plain, bounded in part on the south and east by the Barnā and Ganges, and on the north by the Gumtī. The northern portion is also drained by the Nānd, a tributary of the Gumtī. The soil is generally a rich loam, and irrigation is provided chiefly by wells, though tanks or *jhīls* serve a small area. In 1903–4 the area under cultivation was 326 square miles, of which 159 were irrigated.

Benares Estate.—An estate, usually known as the Family Domains of the Mahārājā of Benares, comprising the *tahsīls* of GANGĀPUR in Benares District and KORH or Bhadohī and CHAKIĀ in Mirzāpur District, United Provinces. The total area is 988 square miles, and the revenue due to Government from Gangāpur and Korh is 3 lakhs, Chakiā being held revenue-free, while the rent-roll is about 10 lakhs. The Mahārājā is exempted from the payment of cesses on account of the Domains, and under Act I of 1904 has recently been authorized to collect certain rates which will be applied in the same manner as local rates in ordinary Districts. Besides his Family Domains the Mahārājā owns a large area of *zamīndāri* land in the Districts of Benares, Ghāzīpur, Balliā, Jaunpur, Allahābād, Mirzāpur, and Shāhābād (Bengal), with a rent-roll of 7 lakhs, paying 3·9 lakhs revenue and Rs. 59,000 cesses. The founder of the family was Mansā Rām, a Bhuinhār, who entered the service of Rustam Alī, governor of Benares

under the Nawāb of Oudh. In 1738 Mansā Rām obtained the engagement for the revenue of the *sarkārs* of Jaunpur, Chunār, and Benares in the name of his son, Balwant Singh, on whom the title of Rājā was conferred. Balwant Singh was subsequently recognized as the *zamīndār* of Gangāpur, and in 1754 he received a revenue-free grant of Chakiā on payment of Rs. 80,000. Later, on the accession of Shujā-ud-daula, half the revenues of Korh were granted to him in *jāgīr*. In 1764, after the battle of Buxar, the territory held by Balwant Singh under the Nawāb of Oudh was granted by the emperor to the Company, but the Court of Directors disapproved the treaty and restored the sovereign rights to the Nawāb. Balwant Singh was succeeded in 1770 by Chet Singh; and the sovereignty of the tract under his control was ceded to the Company in 1775. An agreement was made with Chet Singh confirming him in his possessions subject to the payment of revenue. In 1778 the Rājā was required to pay for the maintenance of three battalions of sepoys, and in 1780 he was further required to pay for cavalry for the general service of the state. Chet Singh manifested great reluctance to meet these demands, and was also believed to be disaffected, and to be holding correspondence with the enemies of the British Government. He was accordingly arrested in August, 1781, by order of Warren Hastings, who had come to Benares; but his retainers collected and cut to pieces the troops guarding the Rājā, and Hastings was compelled to withdraw to Chunār. A month later, when a sufficient force had been collected, the Rājā's strongholds were reduced, and Chet Singh fled to Gwalior, where he died in 1810. The *zamīndāri* was then granted to Mahīp Nārāyan, a grandson of Balwant Singh, at an enhanced revenue; and the criminal administration of the province, as well as the civil and criminal administration of the city of Benares, together with control over the mint, was taken out of the new Rājā's hands. In 1787 Mr. Duncan, the Resident at Benares, called attention to the bad condition of the province, owing to maladministration, and was authorized to carry out a settlement of revenue with the actual landholders, and to institute other reforms. A formal agreement was concluded in 1794, by which the lands held by the Rājā in his own right were separated from the rest of the province, of which he was simply administrator. The direct control of the latter was assumed by the Government, and an annual income of 1 lakh of rupees was assured to the Rājā, while the former constituted the Domains. Within the Domains the Rājā has revenue powers similar to those of a Collector in a British District, which are delegated to certain of his own officials. All civil cases which are in any way connected with land, and all rent cases arising within the Domains, are tried in the Rājā's own courts. The Commissioner of the Benares Division is Superintendent of the Domains, and an appeal lies from all decisions of the Rājā's courts to

the Superintendent. The Deputy-Superintendent, who is a member of the Indian Civil Service stationed at Mirzāpur, exercises most of the powers of the Superintendent, subject to the control of the latter. Appeals lie from the Superintendent or Deputy-Superintendent to the Board of Revenue, which stands in the place of the High Court for such land suits as would be tried by the ordinary civil courts. The tenures in the Domains differ in some respects from those in ordinary British territory. Under-proprietors are called *manzūrīdārs* or *mukarrarīdārs*; the revenue payable by the former to the Rājā is subject to revision at a settlement made under his orders, while the latter pay a fixed sum. The tenant rights resemble those of tenants at fixed rates and occupancy tenants in the neighbouring Districts; but the occupancy right is acquired after twenty years instead of twelve, and is transferable by sale, as well as heritable. The present Rājā, Sir Prabhu Nārāyan Singh, G.C.I.E., who succeeded in 1889, holds the personal title of Mahārājā Bāhādur, and the privilege of being addressed by the title of 'Highness.' He is also authorized to possess 8 cannon and maintain 700 armed retainers.

[*Narrative of the Insurrection in the Zemeedary of Banaris* (Calcutta, 1782, reprinted at Roorkee, 1853); A. Shakespear, *Selections from the Duncan Records* (Benares, 1873); F. Curwen, *The Bulwuntnamah* (Allahābād, 1875); H. B. Punnett, *Manual of the Family Domains* (1891).]

Benares City (*Banāras*, or Kāsī).—Head-quarters of Benares District, United Provinces, with cantonment, situated in 25° 18′ N. and 83° 1′ E., on the left bank of the Ganges; distant by rail from Calcutta 479 miles, and from Bombay 941 miles. The city is the second largest in the United Provinces; but its population includes a large number of pilgrims and is liable to considerable fluctuations. The numbers at the last four enumerations were as follows: (1872) 175,188, (1881) 214,758, (1891) 219,467, and (1901) 209,331. In 1901 the population included 153,821 Hindus, 53,566 Musalmāns, and about 1,200 Christians. The cantonment contained a population of 4,958, included in the figures already given.

The ancient name of the city of Benares was Vārānasī, the etymology of which is uncertain; its popular derivation from Varanā (Barnā) and Asī, the names of the two small streams which confine the modern city, is, however, untenable. A more recent name, still commonly used by Hindus in all parts of India, is Kāsī or Kasī, which is possibly taken from the name of a tribe of Aryas, though popularly explained as meaning 'bright.' In the eighteenth century the city was officially known as Muhammadābād. The great antiquity of Benares is attested by its mention in both the Mahābhārata and the Rāmāyana; but details of its history are very scanty, and even the Purānas record only one dynasty of kings. It was close to Benares, in the deer-park which

is identified with the country round SĀRNĀTH, that Gautama Buddha commenced to preach. In the seventh century A.D., Hiuen Tsiang found the kingdom of Benares inhabited mostly by Hindus, and only a few followers of the law of Buddha. The city at that time contained twenty Hindu temples, with a gigantic copper image of Siva. It is probable that Benares was sacked by Mahmūd of Ghazni early in the eleventh century, and nearly 200 years later it fell into the hands of Muhammad Ghorī. Throughout the Musalmān period its political importance was slight, and the active cultivation of the Hindu religion was forcibly restrained. In the eighteenth century, as has been shown in the history of BENARES DISTRICT, the city and surrounding country gradually came under the Rājā of Benares, and finally in 1775 were ceded to the British.

Benares or Kāsī is at the present time one of the holiest places to the orthodox Hindu, and attracts great concourses of pilgrims, while many of its inhabitants are persons who have settled there in the hope of salvation through a death within its sacred precincts. The native town lies for four miles along a *kankar* ridge on the north-west bank of the Ganges, which forms a slightly curved reach below it, thus permitting the eye to take in at a single sweep the long line of picturesque *ghāts* surmounted by irregular buildings of various styles and proportions, the slender white minarets of Aurangzeb's mosque rising high above the general level. For a distance of from one to two miles from the bank the city consists of winding labyrinths and narrow alleys, lined by many-storeyed buildings used as shops or private houses, with innumerable shrines in every part, ranging from a shapeless fragment of stone smeared with vermilion to magnificent temples. Rājā Mān Singh of Jaipur is said to have presented 100,000 temples to the city in a single day.

The ordinary throng of a large city is swollen by the presence of strings of pilgrims being conducted from one to another of the more important shrines, and by the number of sacred bulls which wander about the streets. Along the *ghāts* strange figures of religious mendicants and ascetics are to be seen, some superintending the ablutions of the pilgrims in the sacred stream of the Ganges, while others practise devotions or various forms of austerity. Within the city there are many handsome houses substantially built and elaborately decorated ; but the narrow, dirty, and crowded environments usually disappoint the visitor, after the high expectations aroused by the view from the river. Even the temples are generally small, and are not more than a few hundred years old. From a religious point of view, the Bisheshwar or Golden Temple, dedicated to Siva, is the most important. Siva in the form of Bisheshwar is regarded as the spiritual monarch of the city, and this is the holiest of all the holy places in the sacred city. It contains

the venerated symbol of the god, a plain *lingam* of uncarved stone. The building is not of striking dimensions and has no great pretensions to beauty, but is crowned by a dome and spire covered with copper, which was gilded at the cost of Mahārājā Ranjīt Singh of Lahore. It was built by Ahalyā Bai, the Marāthā regent of Indore. Subordinate to Bisheshwar is Bhaironāth, who acts as his minister and magistrate. The other temples to which pilgrims are specially directed are those of Bhaironāth, and his staff or Dandpāni, Ganesh or Dhundi Rāj, Vindumādhava or Vishnu, Durgā, and Annpurna. These were chiefly built by Marāthās during the seventeenth century, and are all comparatively small. The Durgā temple is, however, remarkable for its simple and graceful architecture, and is situated in the outskirts on the bank of a large tank. Along the river front the Dasāshwamedh, Manikarnikā, and Panchgangā *ghāts* are the most esteemed. At the first of these Brahmā is said to have performed ten horse-sacrifices. Near the second is situated the famous well, which Vishnu dug with his discus and filled with his sweat, forming one of the chief attractions for pilgrims, thousands of whom annually bathe in the fetid water. The Panchgangā *ghāt* is so named from the belief that five rivers meet at it, but the Ganges alone is visible to the gross material eye. Rājā Jai Singh's observatory, built in 1693, is a handsome and substantial building overlooking the Mān Mandir *ghāt*. It includes a number of instruments which have been allowed to fall out of repair. Close by stands the Nepālese temple, which is ornamented by a series of obscene wooden carvings. The huge mass of Aurangzeb's mosque, built from the remains of a temple, towers high above a steep cliff over the Panchgangā *ghāt*, and is the most conspicuous building in the city when seen from the river. Another mosque, also built on the remains of a temple of Bisheshwar, stands close to the Gyān Bāpī or 'well of knowledge,' where Siva is said to reside. The older buildings and remains are found chiefly in the north and west of the present city, and the ancient site appears to have been situated on both banks of the Barnā. This stream flows into the Ganges about a mile beyond the present northern limit of the city. West of the city lies the suburb of Sigrā, the seat of the chief missionary institutions. Northwards, the Sikraul cantonments and parade-ground stretch away to the bank of the Barnā, which is here crossed by two bridges, of stone and iron respectively. The civil station, including the courts and Central jail, occupies the northern bank. The most noteworthy of the modern buildings are the Mint, the Government College, the Prince of Wales's Hospital, built by the gentry of Benares in commemoration of the visit of His Majesty to the city in 1876, the police station, and the town hall, a fine building constructed at the expense of a Mahārājā of Vizianagram. Benares is the head-quarters of the Commissioner of the Division, who is also a Political

Agent for the payment of certain pensions; of an Inspector of Schools, and of an Executive Engineer in the Roads and Buildings branch. It contains three male and three female hospitals, besides a lunatic asylum, a leper asylum, a poorhouse, and branches of the Church Missionary, London Missionary, Baptist, and Wesleyan Societies. Some members of the ex-royal family of Delhi reside at Benares in a large building called the Shivālā, which was once occupied by Chet Singh.

A municipality was constituted in 1868. During the ten years ending 1901 the income averaged 4·8 lakhs, and the expenditure 5·8 lakhs; the latter, however, included capital expenditure on water-supply and drainage. In 1903–4, excluding a loan of 1·5 lakhs, the income was 4·7 lakhs, the chief items being octroi (3 lakhs), water rate (Rs. 83,000), other taxes (Rs. 34,000), and rents (Rs. 30,000). The expenditure amounted to 6·4 lakhs, including repayment of loans and interest (1·1 lakhs), water-supply and drainage (capital, 2·2 lakhs, and maintenance, Rs. 72,000), conservancy (Rs. 70,000), roads and buildings (Rs. 28,000), public safety (Rs. 50,000), and administration and collection (Rs. 40,000). An excellent system of water-works was constructed between 1890 and 1892, which has cost upwards of 26 lakhs. In 1903–4 the daily consumption of filtered water amounted to over 16 gallons per head of population, and there were more than 5,000 house-connexions. Water is pumped from the Ganges and filtered before use. An elaborate drainage scheme is still under construction, which is estimated to cost 15 lakhs. It includes a system of sewers, with house-connexions.

The cantonment is usually garrisoned by British and Native infantry. The receipts and expenditure of the cantonment fund during the ten years ending 1901 averaged Rs. 12,500. In 1903–4 the income was Rs. 12,700 and the expenditure Rs. 13,100.

The wealth of Benares depends largely upon the constant influx of pilgrims from every part of India, whose presence lends the same impetus to the local trade as that given to European watering-places by the season visitors. Some of the pilgrims are Rājās or other persons of importance, who bring considerable retinues, and become large benefactors to the various shrines and temples. Hindu princes of distant States pride themselves upon keeping up a 'town residence' in holy Kāsī. The city thus absorbs a large share of the agricultural produce of the District, and it also acts as a distributing centre. Its manufactures include ornamental brass-ware, silk, both plain and embroidered with gold and silver, jewellery, and lacquered wooden toys. The brass-ware has a considerable reputation among Europeans as well as natives. The trade in silk *kamkhwāb* or kincob, woven with gold and silver, is decreasing as native taste inclines towards European fabrics. A good deal of German-silver work is now turned out in

Benares, employing a number of workmen who formerly prepared gold and silver wire. This is perhaps the most flourishing industry of the place. The only factories are three ice works, two brickyards, two chemical works, and a few large printing presses.

The Benares College was opened in 1791, and the fine building in which it is now housed was completed in 1852. It is maintained by Government, and includes a first-grade college with 97 students in 1904, and a Sanskrit college with 427 students. The Central Hindu College, opened in 1898, is affiliated to the Allahābād University up to the B.A. standard. It contained 104 students in the college and 204 in the school department in 1904. It was founded largely through the efforts of non-Indian theosophists, and is intended to combine Hindu religious and ethical training, on an unsectarian basis, with modern Western education. The missionary societies maintain a number of schools for both boys and girls; and the Church Missionary Society is in charge of Jai Nārāyan's collegiate school, which was founded by a Hindu, after whom it is called, in 1818, and presented to the Society. The same society manages a normal school for female teachers. The municipality maintains fifteen schools and aids seven others, attended by more than 1,300 pupils. Benares has produced a number of Hindu scholars and authors, and was the residence of the celebrated religious teachers Vallabhāchārya, Kabīr, and Tulsī Dās, and the nineteenth-century author and critic, Harish Chandra. The Sanskrit college issues a periodical called *The Pandit*, dealing with Sanskrit learning, and a society called the Nāgari Prachārini Sabhā has recently commenced the publication of ancient vernacular texts. A few newspapers are published, but none of importance.

[Rev. M. A. Sherring, *The Sacred City of the Hindus* (1868).]

Bendamūrlanka.—Village in Godāvari District, Madras. *See* BANDAMURLANKA.

Bengal[1] (more precisely designated, Lower Bengal).—The largest

[1] The article was written before the changes were carried out which constituted the new Province of EASTERN BENGAL AND ASSAM. These were determined upon to lighten the excessive burden imposed upon the Government of Bengal by the increase of population, the expansion of commercial and industrial enterprise, and the growing complexity of all branches of administration. The Province had hitherto comprised an area of nearly 190,000 square miles, with a population of over 78 millions, and a gross revenue amounting to more than 1100 lakhs. In these circumstances, the relief of the Bengal Government had become an administrative necessity, and it was decided that it could be afforded only by actual transference of territory and not by organic changes in the form of government. Accordingly, on October 16, 1905, the Divisions of Dacca, Chittagong, and Rājshāhi (except Darjeeling), the District of Mālda, and the State of Hill Tippera were transferred to the newly formed Province of Eastern Bengal and Assam, the area under the jurisdiction of the Bengal Government being thus reduced by 50,000 square miles and its population by

and most populous Province in India. It lies between 19° 18′ and 28° 15′ N. and between 82° and 97° E., and contains four large sub-provinces, Bengal proper, Bihār, Chotā Nāgpur, and Orissa. The two former comprise the lower plains and deltas of the Ganges and the Brahmaputra. Chotā Nāgpur is a rugged tract and jungle, broken by deep ravines and river valleys. The greater part of Orissa belongs to the same formation as Chotā Nāgpur; but along the coast there is a narrow belt of alluvium, formed from the silt deposited by the rivers, which drain the hills as they find their sluggish way to the sea.

The Province is bounded on the north by Nepāl and Tibet, and by the mighty chain of the Himālayas; on the east by Assam and the continuation of the range of hills which divides Assam from Burma; on the south by the Bay of Bengal and Madras; and on the west by the United and the Central Provinces.

The whole Province forms a Lieutenant-Governorship with an area[1] of 196,408 square miles, of which 84,728 square miles are included in Bengal proper, 44,259 in Bihār, 24,306 in Orissa, and 43,115 in Chotā Nāgpur. These figures include an unsurveyed tract of swamp and jungle on the fringe of the delta, the extent of which is about 6,600 square miles. Of the total area, 157,796 square miles are British territory, while 38,612 square miles lie in the Native States attached to Bengal: namely, Cooch Behār, Sikkim, Hill Tippera*, and the Tributary States of Orissa and Chotā Nāgpur.

According to Hindu legend, king Bali of the Lunar race had five sons, begotten for him on his queen Sudeshnā by the Rishi Dīrghatamas: namely, Anga, Vanga, Kalinga, Pundra, and Suhmā. Each of these sons founded a kingdom that was named after him. Vanga[2] or Banga is said to have occupied the deltaic tract south of the Padmā, lying between the Bhāgīrathi and the old course of the

25,000,000. The five Hindī-speaking Native States of Jashpur, Surgujā, Udaipur, Koreā, and Chāng Bhakār were at the same time transferred to the Central Provinces; while the District of Sambalpur with the exception of two *zamīndāris*, and also the Oriyā-speaking States of Patnā, Kālāhandī or Karond, Sonpur, Bāmra, and Rairākhol in the Central Provinces, were attached to Bengal. The result of these transfers of territory is that the Province as now constituted comprises an area of 148,592 square miles, with a population of 54,662,529 persons. In order to show the effect of this change in the constitution of the Province, footnotes have been added, wherever possible, giving statistics for the new area; and the States, Divisions, Districts, and towns transferred from Bengal have been indicated by asterisks.

[1] Of the total area of 148,592 square miles now included in Bengal, 35,576 square miles are in Bengal proper (including 5,700 square miles in the Sundarbans), 43,524 square miles are in Bihār, 41,789 in Orissa, and 27,703 in Chotā Nāgpur. Altogether, 115,819 square miles are British territory and 32,773 square miles are Native States.

[2] The word Vanga first appears as the name of a country in the *Aitareya Aranyaka* (2-1-1), where its inhabitants are represented as eaters of indiscriminate food, and as progenitors of many children.

Brahmaputra, and to have been conquered by the Pāndava Bhīm and also by Raghu. The inhabitants of this region are described in the *Raghubansa* as living in boats, and as growing transplanted rice for their staple crop. In the time of Ballāl Sen the tract immediately to the east of the Bhāgīrathi was called BĀGRI, and BANGA occupied the eastern portion of the delta. The tract west of the Bhāgīrathi was known as RĀRH, which in Prākrit was softened to Lāla. Possibly Bengal or Bangāla is a combination of Banga Lāla, and, in any case, there can be no doubt that the word is connected with the ancient Vanga. During the period of Muhammadan rule the term was applied specifically to the whole delta, but later conquests to the east of the Brahmaputra and north of the Padmā were eventually included in it. Under the British the name has at different times borne very different significations. All the north-eastern factories of the East India Company, from Balasore on the Orissa coast to Patna in the heart of Bihār, belonged to the 'Bengal Establishment,' and as its conquests crept higher up the rivers, the term continued to be the designation of the whole of its possessions in Northern India. From the time of Warren Hastings to that of Lord William Bentinck, the official style of the Governor-General was 'Governor-General of Fort William in Bengal.' In 1836, when the Upper Provinces were formed into a separate administration, they were designated the North-Western Provinces, in contradistinction to the Lower Provinces; and although they, as well as Oudh, the Punjab, the Central Provinces, and Burma, were sometimes loosely regarded as forming the Bengal Presidency, the word was ordinarily used in this sense only for military purposes, to denote the sphere of the old army of Bengal, as distinguished from those of Bombay and Madras. In its ordinary acceptation, the term now covers only the jurisdiction of the Lieutenant-Governor of Bengal. The term 'Bengal proper' has a still more restricted meaning, and indicates, roughly speaking, the country east of the Bhāgīrathi and Mahānandā, where the prevalent language is Bengali.

Physical aspects.

Bengal contains tracts of very different physical features, including the alluvial plains of the GANGES and the BRAHMAPUTRA, and the deltas of those rivers, which form the greater part of Bihār and Bengal proper; the crystalline plateau of Chotā Nāgpur, including the Tributary States of Orissa, and the hills stretching to the Ganges at Rājmahāl; the narrow strip of alluvium comprising Orissa; and lastly, a small portion of the sub-Himālayas, the Sikkim State, and a tract which once belonged to Sikkim but now forms the main part of Darjeeling District. It is thought that there was formerly a continuous chain connecting the Rājmahāl range with the remains of the 'peninsular system,' still in existence in Assam, and that their subsidence was due to the

same disturbances that resulted in the elevation of the Himālayas. The hollow thus formed has been filled in by the fluvial deposits of the Himālayan rivers; but the gradual raising of the surface has been, to a great extent, discounted by fresh subsidences, which have been accompanied by upheavals elsewhere. However this may be, the uplands of Chotā Nāgpur date from a very ancient period, while the Himālayas were thrown up at a time which, from a geological point of view, is comparatively recent, and the alluvium in the greater part of Bengal proper has been deposited at a much later date than that in the Bihār plain west of Rājmahāl.

The sub-province of Bihār occupies the north-western quarter of Bengal. It is divided by the Ganges into two parts—north and south. North Bihār is a level plain falling very gradually from the foot of the Himālayas, and with a belt of fairly high land along the bank of the Ganges. Between these two extremes the general elevation is lower, and considerable areas are liable to damage by floods. The soil consists mainly of the older alluvium or *bāngar*, a yellowish clay, with frequent deposits of *kankar*; but in many parts this has been cut away by the torrents that rush down from the Himālayas, and the lowland, through which these rivers have at one time or another found an exit to the Ganges, is composed of more recent deposits of sand and silt brought down by them when in flood. In South Bihār the effects of recent fluvial action are less marked, especially towards the east, where the outlying hills and undulations of the Chotā Nāgpur plateau trench more and more upon the Gangetic plain until, at Monghyr, they extend as far as the river itself, and offer an effectual opposition to the oscillations in its course which the more yielding alluvial soil is unable to prevent elsewhere. The Bihār of our administration contains two tracts which do not properly belong to it. The SANTĀL PARGANAS in its physical and ethnic features is an integral part of Chotā Nāgpur, while MĀLDA* and the eastern part of PURNEA belong to Bengal proper.

The latter sub-province naturally subdivides itself into four distinct parts. West Bengal, or the part west of the Bhāgīrathi, lies outside the true delta. The eastern portion of this tract is low and of alluvial formation; but farther west laterite begins to predominate, and the surface rises and becomes more and more undulating and rocky, until at last it merges in the uplands of Chotā Nāgpur. Central Bengal, or the part lying south of the Padmā, between the Bhāgīrathi on the west and the Madhumatī on the east, was formerly the Ganges delta; but it has gradually been raised above flood-level, and the great rivers which formerly flowed through it, depositing their fertilizing silt, yielding an ample supply of wholesome drinking-water, and draining it, have shrunk to insignificance. Their mouths have silted up and their banks are

often higher than the surrounding country, which they are no longer able to drain. East Bengal, or the country east of the Madhumatī, includes the present delta of the Ganges and Brahmaputra, where the process of land-formation is still going on; but in the south-east the hill range that divides Assam from Burma projects into it, while on the confines of Dacca* and Mymensingh* the MADHUPUR JUNGLE*, a tract of *quasi*-laterite, rises above the recent alluvium. North Bengal lies north of the Padmā and is wholly alluvial, with the exception of the Himālayan State of Sikkim, the greater part of the District of Darjeeling, and an elevated tract known as the BĀRIND*, similar to the Madhupur jungle, which occupies a considerable area on the confines of Dinājpur*, Mālda*, Rājshāhi*, and Bogra*. In spite of its proximity to the hills, the general level of the alluvial country is very low, especially in Cooch Behār, Rangpur*, and the central part of Rājshāhi*; and it suffers from obstructed drainage, due to the silting-up of the rivers and the gradual raising of their beds.

The plains of Orissa are a flat alluvial tract of which the centre and south comprise the delta of the MAHĀNADĪ, and the north has been formed by the fluvial deposits of the rivers which drain the southern flank of the Chotā Nāgpur plateau. Behind these plains rises a belt of hills, which gradually merge in the rocky uplands of the Tributary States.

Chotā Nāgpur, with the Santāl Parganas and the Tributary States of Orissa, belongs throughout to the same geological formation. On the whole, the level rises gradually towards the north and west, but some of the highest peaks are in the south.

The main axis of the HIMĀLAYAS skirts the northern boundary of Sikkim, dividing it from Tibet; but one of the loftiest mountains in the world, KINCHINJUNGA (28,146 feet), lies within Sikkim, and three outliers project far into the plains of Bengal. The SINGĀLILĀ range strikes southward from Kinchinjunga in 88° E., and forms the boundary between Nepāl and Darjeeling, its highest peaks being Singālilā (12,130 feet), SANDAKPHŪ (11,930 feet), PHALŪT (11,811 feet), and SABARGAM (11,636 feet), and the connected ranges and spurs covering the greater part of Darjeeling District. Fifty miles to the eastward, the Chola range runs southward from the Dongkya peak (23,190 feet), and divides Sikkim from Tibet and Bhutān on the east; it is pierced by the JELEP LA PASS, at 14,390 feet, and separates the basin of the TĪSTA on the west from that of the TORSĀ on the east. At Gipmochi (the tri-junction point of the Sikkim-Bhutān-Tibet boundary) this range bifurcates into two great spurs; one runs to the south-east and the other to the south-west, including between them the valley of the Jaldhākā. From Chumalhari (23,933 feet) another great ridge strikes south through Bhutān between the basins of the Torsā (the Chumbi Valley)

and Raidāk rivers, terminating in the SINCHULĀ hills which form the boundary between Jalpaigurī District* and Bhutān. The sub-Himālayan zone is represented by the Someswar hills (2,270 feet), which form the boundary between Champāran District and Nepāl.

The Chotā Nāgpur plateau is contiguous to the Vindhyan system and attains an elevation of 2,000 feet. There are in reality three separate plateaux divided by belts of rugged hill and ravine; and a confused mass of hills fringes the plateaux, extending in the RĀJMAHĀL HILLS and at Monghyr north-east to the Ganges, and southwards over the Orissa Tributary States, while outlying spurs project far into the plains of South Bihār and West Bengal. PARASNĀTH (4,480 feet) in Hazāribāgh District is the loftiest of these spurs, and the SARANDA hills in Singhbhūm rise to 3,500 feet.

On the south-eastern frontier a succession of low ranges running north and south covers the east of the Chittagong Division* and Hill Tippera*. The SĪTĀKUND* hill rises to 1,155 feet; but the ranges in the Chittagong Hill Tracts* attain a greater altitude, the highest peaks being Keokrādang (4,034 feet) and Pyramid hill (3,017 feet).

The most distinctive feature of the Province is its network of rivers—the Ganges and the Brahmaputra, with their affluents and distributaries. These rivers are of use in many ways. They furnish an admirable and cheap means of transport; they contain an inexhaustible supply of fish; and they bring down vast quantities of fertilizing silt, which they distribute over the surface of the delta. The Ganges, which enters on the western frontier, flows almost due east, with numerous oscillations, as far as Rājmahāl, where it escapes from the restraining influence of the hard rocks of the Chotā Nāgpur formation and enters the loose alluvium of Bengal proper. Until some 400 years ago, its subsequent course was due south, down the channel of the BHĀGĪRATHI. By degrees this channel silted up and became unequal to its task, and the main stream of the Ganges was thus obliged to seek another outlet. In this way the ICHĀMATĪ, the JALANGĪ, and the MĀTĀBHĀNGA became in turn the main stream. The river tended ever eastwards, and at last, aided perhaps by one of those periodic subsidences of the unstable surface of the country to which reference has already been made, it broke eastwards, right across the old drainage channels, until it was met and stopped by the Brahmaputra. The river, below the point where the Bhāgīrathi leaves it, is known as the PADMĀ.

Having its source at no great distance from that of the Ganges, but on the other side of the Himālayas, the Brahmaputra flows eastwards through Tibet, where it is known as the Tsan-po, until it reaches a point due north of the eastern extremity of Assam, when it takes a southerly course and, threading its way through the Eastern Himālayas, emerges in the plains of Assam. It then turns westwards and, after traversing

the Assam Valley, enters Bengal from the north-east. It formerly followed the contour of the Gāro Hills and, bisecting the District of Mymensingh*, joined the MEGHNĀ, or the united channel of the rivers which drain the Surmā Valley and the surrounding hills of the Assam range and Lushai. This is the course shown on the maps of Rennell's survey in 1785; and it was not till the beginning of the nineteenth century that, having raised its bed and lost its velocity, it was no longer able to hold its own against the Meghnā, and suddenly broke westwards. Its new course runs due south from Dhubri and joins the Padmā near GOALUNDO*. From this point these two great rivers travel down a common channel and vie with each other in depositing their silt in the eastern corner of the delta, where the land area is now being rapidly thrust forward. They discharge into the Bay of Bengal down the Meghnā estuary.

Along the northern frontier of Bengal numerous rivers debouch from the Himālayas. There are reasons for supposing that formerly, when the Ganges and the Brahmaputra were still 150 miles apart, many of them united to form a great independent river which flowed southwards to the sea, sometimes east of the Bārind down the channel of the KARATOYĀ, and sometimes west of it by way of the MAHĀNĀNDA. It has been suggested that the Haringhāta was the original estuary of the Karatoyā and its affluents, and it is possible that the BHAIRAB was the ancient channel of the Mahānandā. Its tortuous course can still be traced on both sides of the Jalangī and the Mātābhānga; and it is only near the Padmā, almost opposite the point where the Mahānandā flows into it, that all upward traces of this old river disappear. At the present time the chief Himālayan tributaries of the Ganges in this Province are the GANDAK, the Kosī, and the Mahānandā, while the Tīsta—the modern representative of the Karatoyā—is an affluent of the Brahmaputra. On its right bank the Ganges receives the SON from Chotā Nāgpur; and its ancient channel, the Bhāgīrathi, which, in the latter part of its course, is called the HOOGHLY, is augmented from the same direction by the waters of the DĀMODAR and the RŪPNĀRĀYAN. Farther south, in Orissa, several rivers, draining the Chotā Nāgpur plateau, find an exit to the sea independently of the great fluvial system described above. Of these the chief are the SUBARNAREKHĀ, BAITARANĪ, BRĀHMANĪ, and MAHĀNADĪ.

In a level alluvial country like Bengal, where the soil is composed of loose and yielding materials, the courses of the rivers are constantly shifting; land is cut away from one bank and thrown up on the other, and the definition and regulation of the alluvial rights of the riparian proprietors, and of the state, form the subject of a distinct branch of Anglo-Indian jurisprudence.

In spite of the dead level and the consequent absence of variety, the

scenery of Bengal proper and Orissa has a distinct charm of its own. Even in the dry months the groves of bamboos and of mango, areca and coco-nut palm, tamarind, *pīpal* and other trees, in which the homestead lands of the people are buried, afford a profusion of green vegetation very restful to the eye, while in the rains, from the time when the young rice seedlings cover the ground with a delicate green sward until December, when the golden heads of the mature plants fall before the sickle, the landscape verges very closely on the beautiful. In South Bihār, the village sites are, for the most part, devoid of trees, and the houses are crowded together in inartistic confusion. Except for occasional mango groves and the trees on the steeper hills or along some of the main roads, there is very little vegetation when the crops are off the ground, and the prospect is bare and arid, until the rains cause the maize, millets, and early rice to germinate. In North Bihār trees are more plentiful, though much less so than in Bengal proper. The Chotā Nāgpur plateau is a tangled mass of rock and forest. The outlook is always diversified, and from the higher points magnificent views are obtained.

In their upper reaches the rivers have a rapid flow and carry away the soil; but when they enter the level flats of Bengal proper, their speed is reduced, and their torpid current is no longer able to support the solid matter hitherto held in suspension. They accordingly deposit it in their beds and on their banks, which are thus raised above the level of the surrounding country, until at last the river breaks through to the adjacent lowland and makes for itself a new bed, where it repeats the process. Great marshes or *bīls* are often found within the enclosures thus formed by the high banks of rivers. These are generally connected with the outside rivers by *khāls* or drainage channels; but, owing to the tendency of all watercourses to silt up, they remain open only so long as the difference of level between the water in the basin and that outside is sufficiently great to maintain a flow which gives an efficient scour. The natural tendency of these swamps is to fill up; in the rainy season the rivers drain into them and deposit their silt, and decayed vegetable matter also gradually accumulates. In this way, but for the vagaries of the rivers and fresh subsidences of the surface, the irregularities in elevation would in course of time disappear. These marshes are met with all over Bengal proper; but they are especially numerous in the south of FARĪDPUR* and the west and north-west of BACKERGUNGE*, where the whole country is a succession of basins, full of water in the rains, but partially or wholly dry in the winter months. The largest of these depressions is the CHALAN BĪL*, lying partly in Rājshāhi* and partly in Pābna*, which has a water area varying from about 20 square miles in the dry season to 150 in the rains. The average depth of water during the dry season is about 3 feet; a tortuous navigable

channel runs through it, with a depth of from 6 to 12 feet all the year round. In Bihār the number of these marshes is comparatively small, and they usually dry up during the cold season. The only lakes, properly so called, are found in Champāran, where a chain of them (forty-three in number), covering an area of 139 square miles, runs through the centre of the District, marking the old bed of some extensive river which has now taken another course.

The largest lake, if such it can be called, in the whole Province is the CHILKA, in the south of Orissa, a pear-shaped expanse of water, 44 miles long, with an area varying at different seasons from 344 to 450 square miles. It was once doubtless a gulf of the sea, protected on the south by a barren spur of hills and on the north by the alluvial formation deposited by the Mahānadī and other rivers. These two promontories are now joined by a bar of sand, thrown up by the winds of the south-west monsoon, which is steadily growing in breadth. Early in the nineteenth century the only opening had silted up, and an artificial mouth had to be cut, which still connects it with the sea. From December to June the water is salt; but when the rivers which feed it are in flood, the salt water is gradually driven out, and it becomes a fresh-water lake. It is slowly filling up, and its average depth is now only 3 to 5 feet.

The process of land-formation, which is active along the shores of the Bay of Bengal, forms numerous islands, which tend to join the mainland as the intermediate channels silt up; many of them are, however, still separated from the shore by broad channels. SĀGAR ISLAND, off the mouth of the Hooghly, has for centuries been famous as the scene of an annual bathing festival, at the point where the sacred Ganges merges its waters in the Bay. DAKHIN SHĀHBĀZPUR*, at the mouth of the Meghnā, is the largest of the islands formed by the silt-laden waters of the Ganges and Brahmaputra, which have also created SANDWĪP* and HĀTIA*; the former was long notorious as a nest of the Portuguese and Arakanese pirates who harried the coasts of Bengal in the seventeenth century. KUTUBDIĀ* is an alluvial island off the Chittagong* coast which has also been formed by deposits of silt washed down from the Meghnā; the adjacent island of MAISKHĀL* has a backbone of low hills which rise abruptly from the sea.

The coast-line of the Bay of Bengal is everywhere alluvial, and the harbours are situated up the rivers which until recently carried all the commerce of the country. CALCUTTA, 80 miles from the mouth of the Hooghly, absorbs almost the entire trade of the Province, the value of its imports and exports in 1903–4 having been 113 crores, or 75 millions sterling, out of a total for all Bengal of rather less than 118 crores. Of the entire volume of its trade 101 crores is with foreign ports.

CHITTAGONG*, 12 miles up the Karnaphuli river, on the east side of

the Bay, is a much older port than Calcutta, but has until lately served a very limited area, the principal business having been the shipment of jute carried in brigs from NĀRĀYANGANJ*. The Assam-Bengal Railway has now connected it with the Assam Valley, of which it promises to become the principal outlet. The value of its imports and exports in 1903–4 was 4 crores or nearly 3 millions sterling. The Orissa ports include BALASORE, FALSE POINT, and PURĪ; but their trade is declining owing to the competition of the East Coast Railway, and it was valued in 1903–4 at only 83 lakhs.

As has already been stated, the greater part of the plains of Bengal is covered by alluvium. Little is known of the hills in the Chittagong Hill Tracts* and Hill Tippera*, except that they are composed of Upper Tertiary rocks, and geological interest is confined to the Chotā Nāgpur plateau and to the portion of the Himālayas contained in Darjeeling and Sikkim.

Gneissic rocks form the nucleus of the Chotā Nāgpur plateau, and are fringed on all sides by transition rocks, and freely interbedded with micaceous, siliceous, and hornblendic schists. The transition or sub-metamorphic rocks form groups of isolated hills in South Bihār, known as the Rājgir, Sheikhpurā, Kharakpur, and Gīdhaur hills; and similar transition rocks are found in parts of Mānbhūm, Singhbhūm, and Rānchī Districts. The transition rocks carry metalliferous lodes of gold, silver, copper, and lead, but so far none of these have proved remunerative.

Sandstones, shales, and limestones belonging to the Sasarām Vindhyan system occur near Rohtāsgarh in Shāhābād District.

The Gondwāna system contains coal-bearing strata, and is represented in the RĀJMAHĀL HILLS, the Dāmodar valley, in several of the Chotā Nāgpur Districts, and in Orissa. At the base of this system lies the Tālcher group of shale and sandstone, and above it the Karharbāri sandstones, grits, and conglomerates, with seams of coal. This is superposed by the Dāmodar series, which comprises in ascending order the Barākar group, ironstone shales, and the Rānīganj beds. The Barākars consist of conglomerates, sandstones, shales, and coal; and above them, in the Rānīganj and a few other coal-fields of the Dāmodar valley, there is found a great thickness of black or grey shales, with bands and nodules of clay ironstone. The Rānīganj beds comprise coarse and fine sandstones, with shales and coal-seams.

Laterite (a porous argillaceous rock much impregnated with iron peroxide) is well developed on the west coast, and is traced northward from Orissa, through Midnapore, Burdwān, and Bīrbhūm, to the flanks of the Rājmahāl Hills, where in places it is as much as 200 feet thick.

Gneiss of the well-foliated type, frequently passing into mica schist, constitutes the greater portion of the Darjeeling Himālayas; but sub-

metamorphic or transition rocks, known as the Dāling series, are well represented in the Tīsta and the Rangīt valleys, and in the outer hills south of Kurseong, while sandstones, conglomerates, and clays, referable to the Upper Tertiary period, occur as a narrow band fringing the base of the Himālayas. Intervening between the sub-metamorphics and the tertiaries there is a thin belt of Lower Gondwāna rocks, which includes various alternations of sandstones or quartzite, shales, slates, and beds of friable coal.

The vegetation of Bihār and Bengal proper is 'diluvial': i.e. it is of the kind usually found in or near places liable to inundation, and most of the species, both wild and cultivated, if not cosmopolitan, are widespread in the eastern tropics. In Bihār the older alluvium, with mainly annual turf, has the crops and weeds of Upper India. Inundated tracts near rivers are often under tamarisk. Village shrubberies, except on abandoned sites, are scanty, and the forests in the south are open and park-like. Bengal proper has perennial turf. Except in the extreme north the forests are often mixed with reedy grasses, which are sometimes replaced by savannahs. The river-beds are wide and often bare. East of the Bhāgīrathi the country is for the most part a half-aquatic rice plain, with patches of jungle on river banks, and shrubberies of semi-spontaneous species on the raised ground found near habitations and roadways. The marshes, pools, and sluggish streams are filled with water-plants. These conditions become intensified eastwards in the *bīls*, which are rice swamps in the dry season but become inland fresh-water seas with grassy floating islets during the rains; and still more so in the Sundarbans, where the partially-submerged muddy islands lying among interlacing brackish creeks are densely covered with Malayan shore forest and mangrove swamps. The hills on the extreme south-east are covered with forest, Indo-Chinese in character, without *sāl* (*Shorea robusta*), but with *gurjan* (*Dipterocarpus turbinatus*), unknown elsewhere.

In the north the flora gradually changes from tropical to Himālayan. The lower ranges and the *tarai* beneath are covered with dense forest. On sandy or gravelly soils, the *sāl* is the typical tree, while in marshy tracts the *gāb* (*Diospyros Embryopteris*) and other like species are found. A similar forest skirts and ascends the hills of the Chotā Nāgpur plateau. The high lands above have a vegetation which is mainly of the Central Indian type, but that on the more elevated peaks is sub-temperate. The Orissa rice plain resembles that of Bengal proper. Except in the delta of the Mahānadī, which is occupied by a mangrove swamp, it is separated from the sea by sand-dunes covered with Coromandel coast plants.

In ancient times Bengal was the home of numerous wild animals, and the elephant, rhinoceros, and wild buffalo frequented the dense

jungles which have long since given place to cultivation. These animals have now disappeared from all but the most remote tracts, such as the Sundarbans and the jungles of Chittagong*, Jalpaigurī*, and the Orissa Tributary States. Practically the only large game remaining are tigers, leopards, bears, deer, and wild hog. Tigers are comparatively scarce, but still do a great deal of damage in some Districts; leopards, deer, and wild hog are common in many parts; and bears abound wherever there are rocky hills. Owing possibly to the absence of suitable grazing, the domestic animals are of an inferior stamp. The cattle are small and weakly, and the buffaloes also are a very degenerate breed compared with the wild stock from which they are descended.

Although Bengal is situated almost entirely outside the tropical zone, its climate for about two-thirds of the year, i.e. from the middle of March to the end of October, is of the kind usually characterized as tropical; it has a high temperature and humidity, and a dry and a wet season. During the other months the temperature is much lower, the humidity is slight or moderate, and the rainfall is generally scanty. The mean temperature during the cold-season months is about 64° and during the hot season about 83°. About the beginning of March, as the sun gains a higher altitude and the days grow longer, the temperature increases rapidly. The process is aided, in the greater part of Bengal proper and Orissa, by moisture-laden southerly winds from the Bay of Bengal, which give a fairly copious rainfall when weather is disturbed[1], while in Bihār and part of North Bengal hot and dry westerly winds are prevalent in the daytime, but die away at night. From about the middle of May the south-west wind-current steadily strengthens, and, being diverted northwards by the mountain range on the western side of Burma, causes increasing rainfall in East Bengal. By the middle of June, in normal years, the monsoon has attained its full strength, and, flowing northwards, is checked and turned westwards by the Himālayan range. The moist current in its northward course is the cause of heavy rainfall near the coast and in the eastern Districts. Farther west the rainfall is more intermittent, and is due more to the cyclonic disturbances which develop at short intervals of two or three weeks in the north-west angle of the Bay and in Lower Bengal. These invariably move westwards, and in passing over the western Districts cause continuous and occasionally very heavy rainfall for several days at a time. From the beginning of September the south-west monsoon begins to fall off in strength. Cloud and rainfall are more intermittent, and are generally due to cyclonic storms, which begin to move more to the north and north-east than to the west. Temperature increases owing to the longer intervals of bright sunshine. Before the end of October

[1] The local hot-season storms are known as 'nor'-westers.' They are generally accompanied by heavy rain and occasionally by hail.

the south-west monsoon has ceased to affect the Province; and, as during the latter half of that month pressure becomes higher in Bengal than over the Bay, northerly winds begin to set in. Being land winds, they carry but a small amount of moisture, and coming from the colder region in the north, their advent is followed by an immediate fall of temperature. Hence, during the months from November to February, fine dry weather, with an almost entire absence of cloud and rainfall, prevails in all parts of the Province. Occasional disturbances originating in, or proceeding from, the north-west of India pass from west to east over Bengal in January and February. The cyclonic winds which they cause are followed by the formation of general cloud, with irregular, but at times heavy, rainfall.

Excluding the Darjeeling hills, where the mountain slopes cause an annual rainfall varying from 209 inches at Buxa* to 122 inches at Darjeeling, the areas of greatest precipitation are in the south-east, where the rainfall ranges between 100 and 140 inches. In the rest of East Bengal it is between 70 and 80 inches, but again rises in North Bengal to 84 inches in Rangpur*, and to between 100 and 130 inches in the submontane plains. In the coast Districts of Central and West Bengal and in Orissa, where the effect of cyclonic storms from the Bay is chiefly felt, the annual fall is generally from 60 to 70 inches, but in places it exceeds 80 inches. In the other Districts of Bengal proper, and in the east of Bihār, where the influence of mountain ranges and cyclonic storms is less apparent, the rainfall is lighter and more uniform, being generally between 50 and 60 inches. Farther west it diminishes to 45 inches in Chotā Nāgpur and to 42 inches in South Bihār. In the submontane tracts of North Bihār the annual fall varies from 50 to 55 inches.

The rainfall depends largely upon local conditions, and the fluctuations are irregular; but generally it was very deficient in 1873, in 1883 and 1884, and in 1895 and 1896. The most marked deficiency was in 1873, when the fall was only between 50 and 60 per cent. of the normal. Heavy rainfall occurred throughout the Province in the years 1876, 1886, and 1899; in other years heavy local falls occurred, e.g. in Lower Bengal in 1893 and 1900. If the variability be shown by the absolute range, that is, the difference between the heaviest and lightest rainfall on record expressed as a percentage of the normal, we find that it is greatest in the north-west of the Province and diminishes southward and eastward. In Bihār it is 108, in Chotā Nāgpur 87, in Orissa 87, in the central Districts 83, and in North and East Bengal about 72.

One of the most remarkable features of the rainfall of Bengal is the occasional occurrence of excessive local precipitation. Thus, on September 25, 1899, a fall of 19½ inches was registered in Darjeeling, causing numerous landslips and some loss of life. The natural effect

of a heavy downpour is to cause the rivers to rise and overflow their banks, especially the rivers flowing from the Himālayas, which collect the rain-water more rapidly than do those in the plains. The most disastrous flood of this nature on record occurred in 1787, when the Tīsta suddenly burst its banks and spread itself over the whole District of RANGPUR*. It is estimated that the direct loss of life due to drowning, and the indirect mortality on account of famine and disease, amounted to one-sixth of the entire District population. In the case of non-Himālayan rivers, the liability to damage is greatest where embankments have been thrown up to hold the river to its course. The effect of these embankments is that the water, which is flowing at a higher level than the surrounding country, suddenly rushes over them instead of rising gradually, as it would do if there was no embankment. Consequently, when a breach occurs, the water pours over the lower land beyond and does immense damage. In 1885, and again in 1890, when the great Lalitākuri embankment of the Bhāgīrathi gave way, the flood-water swept right across MURSHIDĀBĀD and NADIĀ Districts for a distance of more than 50 miles.

The Province suffers even more from cyclones, especially on the sea-coast of East Bengal, where they often cause an inundation of salt water. The most striking features in these cyclones are the great barometric depression in the centre and the magnitude of the storm area. These two causes produce a large accumulation of water at and near the centre, which progresses with the storm and gives rise to a destructive storm-wave when the centre reaches a gradually shelving coast. This conjunction of adverse circumstances occurs more or less regularly at intervals of ten or twelve years. The worst of the recent calamities of this nature was in 1876, when a great part of BACKERGUNGE* and the adjoining Districts was submerged to a depth of from 10 to 45 feet. Nearly 74,000 persons were drowned in Backergunge* alone, and the cholera epidemic which followed carried off close on 50,000 more. On October 24, 1897, CHITTAGONG DISTRICT* was devastated by a similar but more local catastrophe; 14,000 persons were drowned and nearly three times that number died of the diseases that followed. Tidal waves have more than once caused great damage to the shipping in the HOOGHLY; and although Calcutta itself is so far from the sea, it is by no means certain that it is beyond the reach of a bore of exceptional height and momentum. Great damage is occasionally caused by cyclones on the sea-coast of Orissa, and in 1885 a considerable area in Cuttack and Balasore was inundated and large numbers of human beings and cattle were drowned.

In the earlier part of this article reference has been made to the probability that in the distant past the surface of Bengal had been greatly affected by changes of elevation. Small earth tremors are still

of constant occurrence, and on at least seven occasions in the past 150 years—in 1762, 1810, 1829, 1842, 1866, 1885, and 1897—earthquakes of considerable severity have taken place. By far the worst of these was that of June 12, 1897. Its focus is believed to have been somewhere near Cherrapunji in the Assam range, but it travelled with such rapidity that it reached the western extremity of Bengal in six minutes or even less. The violence of the shock in this Province was greatest in the Districts bordering on Assam, and it was comparatively slight west of the Bhāgīrathi. In North and East Bengal most of the older masonry buildings fell or were severely damaged, and even in Central Bengal a considerable proportion of the larger buildings suffered. Some of the older ones collapsed altogether and many others were rendered unfit for occupation. In the alluvial tracts near Assam numerous long cracks and fissures opened in the ground, and circular holes were formed through which water and sand were ejected; wells were filled with sand, and many small river-channels were entirely blocked by the upheaval of their beds. The railways in the same localities were rendered impassable owing to the damage done to bridges and to fissures in the embankments, which in some places subsided altogether. The shock fortunately occurred in the daytime and the mortality was thus small; had it occurred at night, the number killed must have been very large. The previous earthquake (that of 1885) was felt chiefly in the same parts of Bengal, but it was more local; its area of maximum intensity was in the neighbourhood of Bogra*.

History.

The people of Bengal appear from their physical type to belong to three distinct stocks—Dravidian, Mongoloid, and Aryan. Except on the northern and eastern outskirts, the main basis is everywhere Dravidian; but in Bengal proper there is a strong Mongoloid element, while in Bihār the Dravidian type has been modified by an admixture of Aryan blood. Philologists hold that the earliest recognizable linguistic formation in India is the Dravidian. How the people who brought these languages with them entered India is a problem regarding which we can only speculate. They may have come from the north-west by way of Arabia, where (if so) the subsequent intrusion of a Semitic race has since obliterated all trace of them; or they may, more probably, have come from the south in the prehistoric time when it is thought that India was connected with Madagascar by a land area, known to naturalists as Lemuria, which subsequently broke up and sank beneath the sea, leaving as its only trace several huge shoals and a chain of islands, including the Seychelles, Chagos Islands, the Laccadives and Maldives. Dravidian languages still survive, not only in Southern India, where Tamil and Telugu are its leading representatives, but also in the Chotā Nāgpur plateau, where they are spoken by the Oraon, Māle, and other tribes. Bengal was next over-

run, as far as Bihār and Chotā Nāgpur, by tribes speaking languages of the family known as Mon-Anam or Mon-Khmer, which is still extant in Pegu, Cambodia, and Cochin China. These tribes probably came from the north-east by way of the Pātkai pass and the valley of the Brahmaputra. The only dialect of this family which survives in Assam is the Khāsi; in Bengal not a single representative is left, but indications of its former existence are perhaps disclosed by the Mundā family of languages[1]. These invaders from the north-east were followed by fresh hordes from the same direction, whose speech was of the type known as Tibeto-Burman, of which Tibetan and Burmese represent the two standards to which the other and ruder dialects tend to conform, and which is believed to have had its origin in Eastern Tibet or in adjacent territory now Chinese. The earliest of these later incomers were probably the ancestors of the Pods of Central and the Chandāls of East Bengal, who have long since abandoned their characteristic dialects, while the latest were the Kochs, Mechs, and Gāros, many of whom still retain their tribal forms of speech. The Aryan invasion from the north-west, which took place while the incursions of Mongoloid tribes from the north-east were still in progress, was the last notable movement so far as this Province is concerned. Bihār was the seat of rule of Aryan princes, but in Bengal proper the stream of immigration was comparatively thin and attenuated. As the Aryan invasion spread, its character changed, and arms gave way to arts. Aryan priests, adventurers, merchants, and artificers found their way over and beyond Bengal, and by their superior intelligence and culture gradually imposed their religion and language on people whom they had never conquered, and sometimes even snatched the crown from the indigenous ruling families.

The province of Bihār is known to us from very early times. The ancient kingdom of MAGADHA comprised the country now included in the Districts of Patna, Gayā, and Shāhābād. Its capital was at Rājāgriha (RĀJGIR), some 30 miles north-east of Gayā. North of the Ganges was Videha or MITHILĀ, which was very early a great seat of Sanskrit learning, and included the modern Districts of Darbhangā, Champāran, and North Muzaffarpur; the south of the latter District constituted the small kingdom of VAISALĪ. To the east lay ANGA, including Monghyr, Bhāgalpur, and Purnea, as far as the Mahānandā river. There are constant references to these countries in the Mahābhārata. Magadha is even mentioned under the name of Kikotā in the Rig Veda, and Mithilā in the *Satyapatha Brāhmana*. It was in Magadha that Buddha developed his religion, and that Mahāvīra founded the cognate creed of the Jains. Soon after Buddha's death,

[1] There are traces of an alliance with the Mon-speaking races in the social organization of the Mundā-speaking tribes and in the monoliths which some of them still erect.

a Sūdra, named Nanda, wrested the throne from the Kshattriyas and founded a new dynasty. He made his capital at the confluence of the Son and the Ganges near the modern PATNA. Chandragupta, a contemporary of Alexander the Great, on the death of that monarch, organized a powerful force with which he expelled the Macedonians. He then turned his arms against Dhema Nanda, king of Magadha, and having defeated and slain him, seated himself on the vacant throne of Pātaliputra and gradually extended his rule over the greater part of Northern India. He successfully resisted Seleucus, who had succeeded to the eastern portion of Alexander's empire. When peace was made, all the Indian provinces of Alexander, and probably also the Kābul valley, were ceded to Chandragupta, and a matrimonial alliance was effected between the two royal houses. Megasthenes was deputed by Seleucus as his ambassador at Pātaliputra, and it was here that he compiled his work on India. The government of the Indian monarch is described as strong and well organized, and as established in a magnificent fortified city. The standing army numbered 60,000 infantry, 30,000 cavalry, 8,000 elephants, and a multitude of chariots. On active service the army is said to have attained the huge total of 600,000 men. In 272 B.C. Chandragupta's grandson, Asoka, ascended the throne, and nine years later he added Kalinga to his empire. His experiences during this campaign impressed him so deeply with the horrors of warfare that he thenceforth turned his thoughts to religion and became the great champion of Buddhism. He sent his missionaries to every known country and himself took the vows of a Buddhist monk.

In the fourth century A.D. the Gupta dynasty rose to power. Their capital was also at Patna, and their supremacy was acknowledged by the kings of the different countries now included in Bengal. They were Hindus by religion. In Hiuen Tsiang's time (seventh century) North Bihār was divided into Vrīji to the north and Vaisalī to the south, both countries stretching eastwards to the Mahānandā. South of the Ganges were Hiranya Parvana (Monghyr) and Champā (south Bhāgalpur, the Santāl Parganas, and Bīrbhūm). The rulers of both these kingdoms were probably Khetauris of Māl origin. In the ninth century the Buddhist dynasty founded by Gopāl included Bihār in its dominions. The last of this line was defeated in 1197 by Muhammad-i-Bakhtyār Khiljī, whose soldiers destroyed the capital at Odantapuri and massacred the Buddhist monks assembled there.

Very little is known of Bengal proper until the rise of the Pāl dynasty. At the time of the Mahābhārata, North and East Bengal formed, with Assam, the powerful kingdom of PRĀGJYOTISHA, or Kāmarūpa as it was subsequently called, and its ruler, Bhagadatta, was one of the great chiefs who fought in the battle of Kurukshettra. This

kingdom stretched westwards as far as the Karatoyā river. It was ruled by a succession of princes of Mongoloid stock, and was still flourishing when visited by Hiuen Tsiang in the seventh century. South-west of Prāgjyotisha, between the Karatoyā and the Mahānandā, lay PUNDRA or Paundravardhana, the country of the Pods, which, according to Cunningham, has given its name to the modern Pābna*; its capital may have been at MAHĀSTHĀN* on the right bank of the old Karatoyā river, or at Pandua*, near Mālda*. This kingdom was in existence in the third century B.C., and Asoka's brother found shelter there in the guise of a Buddhist monk. It was still flourishing when Hiuen Tsiang travelled in India; and it is mentioned as a powerful kingdom in the eighth century A.D., and as a place of pilgrimage in the eleventh century.

East of the Bhāgīrathi and south of Pundra lay BANGA or Samatata. Its people are described in the *Raghubansa* as possessing many boats, and they are clearly the ancestors of the Chandāls, who at the present day inhabit this part of the country. On the west of the Bhāgīrathi lay KARNA SUVARNA (Burdwān, Bānkurā, Murshidābād, and Hooghly), whose king, Sasānka or Narendra, the last of the Guptas, was a fanatical worshipper of Siva, and invaded Magadha and cut down the sacred *bodhi* tree early in the seventh century. The capital was probably near RĀNGĀMĀTI, in Murshidābād District. Lastly, there was the kingdom of TĀMRALIPTA, or Suhmā, comprising what now constitutes the Districts of Midnapore and Howrah. The rulers of this country seem to have been Kaibarttas.

During the ninth century, the Pāl dynasty rose to power in the country formerly known as Anga, and gradually extended their sway over the whole of Bihār and North Bengal. Traces of their rule are very common in the south of Dinājpur*, where the memory of Mahīpāl, in particular, is preserved both in the traditions of the people and in numerous names of places. Like the kings of Pundra, they were Buddhists, but they were tolerant towards Hinduism. They were driven from Bengal proper, about the middle of the eleventh century, by a king named Vijaya Sen of the Sen family, but they continued to rule for some time longer in Bihār. The Sens rose to power in East and deltaic Bengal towards the end of the tenth century, and eventually included within their dominions the whole of Bengal proper from the Mahānandā and the Bhāgīrathi on the west to the Karatoyā and the old Brahmaputra on the east. The Sens were Hindus, and during their rule Buddhism was actively discouraged. The best remembered king of this dynasty is Ballāl Sen, who reorganized the caste system and introduced Kulinism among the Brāhmans, Baidyas, and Kāyasths. To him is attributed the division of Bengal into four parts: namely, RĀRH, west of the Bhāgīrathi, corresponding roughly to Karna Suvarna;

BĀRENDRA, between the Mahānandā and the Karatoyā, corresponding to Pundra; BĀGRI (Bāgdi) or South Bengal; and Banga or East Bengal. He conquered and annexed Mithilā, where the era inaugurated at the accession of his son, Lakshman Sen, is still current. The latter was still holding his court at Nabadwīp at the time of Muhammad-i-Bakhtyār's invasion at the end of the twelfth century. He himself fled to Orissa; but his descendants exercised a precarious sovereignty in East Bengal, with their capital at BIKRAMPUR* in Dacca District, for a further 120 years.

At the dawn of history Orissa formed part of the powerful kingdom of KALINGA, which stretched from the mouths of the Ganges to those of the Godāvari. It was conquered by Asoka, but by 150 B.C. it had again passed to the Kalinga kings. Jainism was then beginning to spread in the land; but about the second century A.D. it was succeeded, according to Buddhist tradition, by the latter creed, which was still flourishing in 640. Subsequently the power of the Kalinga dynasty declined, and Orissa seems to have become independent. In 610, however, an inscription of Sasānka, king of Magadha, claims it as a part of the dominions of that monarch, and in 640 it was conquered by Harshavardhana of Kanauj. In the tenth and eleventh centuries, Orissa is said to have been under the rule of the Kesari kings, to whose rule are ascribed the Saiva temples at BHUBANESWAR and most of the ruins in the Alti hills; but the existence of such a dynasty is uncertain [1]. Then followed the dynasty founded by Chora Gangā of Kalinganagar. These kings were of the Vaishnava faith; they built the famous temple of Jagannāth at PURĪ and the Black Pagoda of KONĀRAK. There were frequent wars with the Muhammadans, and about 1361 the emperor Fīroz Shāh conducted an inroad into Orissa in person. In 1434 Kapileswar Deva, of the Solar line, usurped the throne. He extended his dominions to the south, where Muhammadan inroads had subverted the old order of things, as far as the Penner river; but his successors were gradually shorn of these additions by the Musalmān rulers of Golconda. In the north also the onset of the Muhammadans became more and more insistent; and at last in 1568, after a period of civil war, the last Hindu king, a usurper of the name of Mukund Deo, was overthrown by Kāla Pāhār, the general of Sulaimān Kararānī.

Muhammad-i-Bakhtyār Khiljī, a Turkī free-lance, who acknowledged the suzerainty of Muhammad Ghorī, conquered Bihār about 1197. Two years later he advanced with a small troop of horsemen into Bengal, and took possession of Gaur* and Nabadwīp without a

[1] The account of these kings given in the *Mādala Panjikā*, or palm-leaf records of the Temple of Jagannāth, has been shown to be wholly unreliable, but several inscriptions have recently come to light which are thought by some to prove that the dynasty really existed.

struggle. He unsuccessfully invaded Tibet, and in his retreat lost the greater part of his army at the hands of the Mechs east of the Karatoyā. The greater part of Bengal gradually came under the control of the Muhammadan governors, who ruled at Gaur or Lakhnautī, in loose subjection to the Delhi emperors.

Mughīs-ud-dīn Tughril, the sixteenth governor, who had originally been a favourite slave of the emperor Balban, seeing that Balban was preoccupied with the advance of the Mongols from the west, rebelled and defeated in turn the imperial armies that were sent against him. Balban himself then took the field (in 1282), and having surprised and slain Tughril and put a great number of his followers to the sword, installed his son, Nāsir-ud-dīn Bughrā, as governor. In 1338 Fakhr-ud-dīn Mubārak revolted against Muhammad bin Tughlak, and declared himself independent.

Eight years before this date South Bihār had been separated from Bengal and annexed to Delhi. North Bihār apparently belonged to Bengal for some time longer, as the Bengal king, Hājī Shams-ud-dīn Ilyās, is reputed to have been the founder of Hājīpur. In 1397 the whole of Bihār became part of the kingdom of Jaunpur; but a century later it was again taken possession of by the emperors of Delhi, who continued to hold it, except for a short time when the Bengal king, Alā-ud-dīn Husain, and his son, Nāsir-ud-dīn Nusrat, obtained temporary possession of the country north of the Ganges. Under the Mughals the capital of the country was the town of BIHĀR in the south of the Patna District, and from this town the whole province took its name. A considerable part of North Bihār was under the rule of a line of Brāhman kings, who were generally tributary to the Pathāns, from the middle of the fourteenth to the middle of the sixteenth century. Another Hindu dynasty, possibly connected with them, ruled during the fifteenth century in Champāran and Gorakhpur.

From 1338 till 1539, when it fell into the hands of Sher Shāh, Bengal was ruled by various lines of independent kings, mostly of Pathān or Turkī origin. Some, however, were Abyssinian eunuchs, and one, Rājā Kāns or Ganesh of Dinājpur*, was a Hindu; the latter's son, who succeeded him, became a convert to Islām. The exact area of their dominions varied. Sometimes they were contracted by the encroachments of the kings of Kamātāpur, Arakan, and Tippera*, while at others they were extended, notably by Alā-ud-dīn Husain, who in 1498 conquered the kingdom of Kamātāpur in the north-east and overran Orissa and Bihār.

After Bābar had overthrown the Afghān dynasty at Delhi, he turned his arms against the Afghān rulers of Bihār. These were twice defeated in 1528 and 1529, and sought refuge with their compatriots in Bengal, who in their turn were worsted in a battle on the banks of the

Gogra. After Bābar's death the Bihār Afghāns rallied under a brother of the late Lodī Sultān of Delhi, but were decisively vanquished by Humāyūn in 1531 in an engagement near Lucknow. Meanwhile Sher Shāh, a descendant of the royal house of Sūri kings of Ghor, who rose from a humble executive office to the rank of prime minister of the Afghān governors, or kings of Bihār, as they called themselves in Bābar's time, had established himself at Chunār. Humāyūn did not trouble to reduce him, but contented himself with a verbal submission; and the result was that during the next six years, while the emperor was engaged elsewhere, Sher Shāh became supreme on the borders of Bengal. In 1537 Humāyūn marched against him, and after a siege of six months reduced his fortress of Chunār. At the same time Sher Shāh was himself engaged in the conquest of Bengal. He effected this; but when Humāyūn, after taking Chunār, marched into Bengal, Sher Shāh shut himself up in ROHTĀSGARH, which he had captured by a stratagem, and made no effort to oppose his advance. Humāyūn spent six months in dissipation in Bengal; but then, finding that Sher Shāh had cut off his communications and that his brother at Delhi would not come to his assistance, he retraced his steps and was met and defeated near BUXAR. Sher Shāh then ousted the Mughal governor who had been left at Gaur, and proclaimed himself king of Bengal and Bihār. A year later he again defeated Humāyūn at Kanauj and became emperor of Delhi. He proved a strong and capable ruler; during his reign the country enjoyed peace and prosperity, and the people were secure from oppression and bribery. He died in 1545. Ten years later Humāyūn recovered the throne of Delhi from his nephew, but the Afghān governors of Bengal remained unconquered. Rāju, better known as Kāla Pāhār, the general of Sulaimān Kararānī, who acknowledged the supremacy of Akbar, but was practically independent, conquered Orissa in 1568. Sulaimān's son Daud at first made his submission to Akbar. He subsequently rebelled, but was defeated; and Bengal was definitely annexed to the Mughal empire, to which it continued to belong practically till the disintegration of the empire after the death of Aurangzeb, and nominally until it passed into the possession of the East India Company.

During the earlier years of Mughal rule, the governors were called upon to meet repeated risings of the previously predominant Afghāns, who, when defeated, took refuge in Orissa. Rājā Mān Singh inflicted a crushing defeat on them, but they were not finally subdued until 1611 in the viceroyalty of Islām Khān. At this time the incursions of Maghs from Arakan, and Portuguese pirates from the islands at the mouth of the Meghnā, had become so persistent that special steps had to be taken to resist them. With this object Islām Khān removed the capital, which had usually been at Gaur or the neighbouring towns

of Pandua and Rājmahāl, to Dacca*, where it remained, except for a short interval, until Murshid Kulī Khān made Murshidābād his head-quarters a hundred years later. When Shāh Jahān rebelled against his father, the emperor Jahāngir, in 1621, and after being defeated, fled to the Deccan, where he again suffered defeat, he determined to seize upon Bengal. He took Orissa by surprise, and subsequently, with the aid of the Afghāns, overthrew the governor and took possession of the whole Province. He held it for two years, but was then defeated and made his submission. On the death of Jahāngīr he became emperor, and in 1639 appointed his son Sultān Shujā to be governor of Bengal. The latter subsequently fought against his brother Aurangzeb, but was defeated by Mīr Jumla and fled to Arakan, where he died a miserable death. Mīr Jumla was rewarded with the post of governor, which he filled with conspicuous ability. The most important event of his rule was his invasion of Cooch Behār and Assam in 1661 and 1662. He overran both countries; but the rigours of a rainy season in Upper Assam spread death and disease among his troops, and he was compelled to return, only to die of dysentery contracted during the campaign, shortly after his arrival at Dacca*.

When Aurangzeb died, the governor of Bengal was Murshid Kulī Khān, a Brāhman convert to Islām. He possessed great administrative ability; and, profiting by the dissensions at Delhi, he succeeded in making himself practically independent. From that time forward the supremacy of the Mughal emperors was little more than nominal.

In North Bengal various Mongoloid tribes rose in turn to power. When Alā-ud-dīn Husain overran the country at the end of the fifteenth century, the ruling monarch was Nīlāmbar, the third of a line of Khen chieftains. Shortly afterwards Biswa Singh, the progenitor of the Koch kings, founded a new dynasty, whose rule extended from the Karatoyā to Central Assam; and it was not until 1661 that the country as far as Goālpāra was permanently acquired by Mīr Jumla. Previous to the seventeenth century the Chittagong Division* was usually in the hands of the Tipperas or of the Maghs, and it was only after the transfer of the capital to Dacca* that this tract was gradually annexed.

Orissa (including Midnapore), which had been wrested from the Hindu kings by Kāla Pāhār, remained in the possession of the Afghāns until 1592, when Mān Singh annexed it. It was placed under separate governors, but Midnapore and Balasore were subsequently transferred to Bengal. In 1751 Alī Vardī Khān ceded the province to the Bhonslas of Nāgpur, in whose possession it remained until its conquest by the British in 1803. The Marāthās made no attempt to establish any civil administration, and their rule was confined to a periodic harrying of the country by their cavalry, who extorted whatever they could from the people.

Chotā Nāgpur, including the Tributary States of Chotā Nāgpur and Orissa, is called Jhārkand in the *Akbarnāma*. The country was ruled by chiefs of various aboriginal tribes, the Cheros being predominant in Palāmau, the Mundās in Rānchī, and the Bhuiyās and Gonds in the Orissa States. The south of Chotā Nāgpur proper was annexed by Akbar, and Palāmau by Shāh Jahān. The remoter chiefs appear to have remained independent until their subjugation by the Marāthās towards the end of the eighteenth century.

During Muhammadan rule the authority of the central government varied with the character of the king or governor for the time being. If he was energetic and masterful, the whole country accepted his authority; but if he was weak and indolent, the local rulers became practically independent. At all times their internal administration was but little interfered with, so long as they paid a regular tribute and furnished troops or supplies for troops when required to do so.

Some of these local potentates were Hindu Rājās and others were Muhammadan free-lances, who carved out kingdoms for themselves, and some, again, were agents of the central authority, who gradually secured a large measure of independence. The founder of the Burdwān Rāj family was a Punjābi Khattrī, who had received an appointment under the Faujdār of Burdwān, and whose descendants acquired property and power by degrees, until, in 1753, one of them received from the emperor Ahmad Shāh a *farmān* recognizing his right to the Burdwān Rāj. The Rājās of Bishnupur or Mallābhūm were pseudo-Rājputs of aboriginal origin, who were sometimes the enemies, sometimes the allies, and sometimes the tributaries of the governors, but were never completely subjugated. About the middle of the fifteenth century a Muhammadan adventurer, named Khān Jahān, or Khānja Alī, obtained a *jāgīr* from the king of Gaur, and made extensive clearances in the Sundarbans, where he appears to have exercised all the rights of sovereignty until his death in 1459. A hundred years later, when Daud, the last king of Bengal, rebelled against the emperor, one of his Hindu counsellors obtained a Rāj in the Sundarbans, the capital of which, near the Kālīganj police station in Khulnā, has given its name to the modern District of JESSORE. His son, Pratāpāditya, was one of the twelve chiefs or Bhuiyās who held the south and east of Bengal nominally as vassals of the emperor, but who were practically independent, and were frequently at war with each other. He rebelled against the emperor, and, after some minor successes, was defeated and taken prisoner by Rājā Mān Singh, the leader of Akbar's armies in Bengal from 1589 to 1606. Amongst the other Bhuiyās who were ruling at the time of Ralph Fitch's travels (towards the end of the sixteenth century), may be mentioned Paramānanda Rai, who ruled over a small kingdom at

Chandradwīp in the south-east of the modern District of Backergunge*, and Isa Khān, of SONĀRGAON* in Dacca*, who was 'chief of all the other kings' and powerful enough to make war on the Koch kings of Kāmarūpa.

The following is a chronological table of the Muhammadan rulers of Bengal:—

Early Muhammadan Governors of Bengal

	A.D.		A.D.
Muhammad-i-Bakhtyār Khiljī	1202	Nāsir-ud-dīn Bughrā (son of Balban)	1282
Izz-ud-dīn Muhammad Shīrān	1205	Rukn-ud-dīn Kaikaus (son of Bughrā)	1291
Alā-ud-dīn Mardān	1208	Shams-ud-dīn Fīroz (son of Bughrā)	1302
Ghiyās-ud-dīn Iwaz	1211	Shahāb-ud-dīn Bughrā (son of Bughrā, W. Bengal)	1318
Nāsir-ud-dīn Mahmūd, son of emperor Altamsh	1226	Ghiyās-ud-dīn Bahādur (son of Fīroz, E. Bengal)	1310
Alā-ud-dīn Jānī	1229	Ghiyās-ud-dīn Bahādur (all Bengal)	1319
Saif-ud-dīn Aibak	1229	Nāsir-ud-dīn (son of Fīroz, Lakhnautī)	1323-5
Izz-ud-dīn Tughril Tughān	1233	Bahādur restored with Bahrām (E. Bengal)	1324-30
Kamar-ud-dīn Tamar	1244	Bahrām	1330-8
Ikhtiyār-ud-dīn Yūzbak	1246	Kadar Khān (Lakhnautī)	1325-39
Jalāl-ud-dīn Masūd	1258	Izz-ud-dīn (Sātgaon)	1323-39
Izz-ud-dīn Balban (afterwards emperor)	1258		
Muhammad Arslān Tātār Khān	1260		
Sher Khān			
Amīn Khān			
Mughīs-ud-dīn Tughril	1277		

Independent Muhammadan Kings of Bengal

	A.D.		A.D.
Fakhr-ud-dīn Mubārak (E. Bengal)	1338-49	Jalāl-ud-dīn Fateh	1481
Ikhtiyār-ud-dīn Ghāzī (E. Bengal)	1349-52	Shāhzāda Bārbak Habshī	1486
Alā-ud-dīn Alī (W. Bengal)	1339-45	Saif-ud-dīn Fīroz	1486
Shams-ud-dīn Ilyās (in Gaur)	1345	Nāsir-ud-dīn Mahmūd	1489
Sikandar I	1358	Shams-ud-dīn Muzaffar	1490
Ghiyās-ud-dīn Azam (in the East)	1389	Alā-ud-dīn Husain	1493
Saif-ud-dīn Hamza	1396	Nāsir-ud-dīn Nusrat	1523
Shams-ud-dīn	1406	Alā-ud-dīn Fīroz	1532
Shahāb-ud-dīn Bāyazīd Shāh with Rājā Kāns (Ganesh)	1409	Ghiyās-ud-dīn Mahmūd Shāh (the last substantial King of Bengal)	1532
Jalāl-ud-dīn Muhammad	1414	*Conquest by Humāyūn*	1537
Shams-ud-dīn Ahmad	1431	Sher Shāh (Sultān of Delhi)	1539
Nāsir-ud-dīn Mahmūd	1442	Islām Shāh ditto	1545
Rukn-ud-dīn Bārbak	1459	Shams-ud-dīn Muhammad Sūr	1552
Shams-ud-dīn Yūsuf	1474	Bahādur	1554
Sikandar II	1481	Ghiyās-ud-dīn Jalāl	1560
		Sulaimān Kararānī	1563
		Bāyazīd	1572
		Daud	1573

Governors of Bengal under the Delhi Emperors

	A.D.		A.D.
Khān Jahān	1576	Sultān Shujā	1639
Muzaffar Khān	1579	Mīr Jumla	1660
Rājā Todar Mal	1580	Shaista Khān	1664
Khān Azīm	1582	Fidai Khān	1677
Shāhbāz Khān	1584	Sultān Muhammad Azīm	1678
Rājā Mān Singh	1589	Shaista Khān (again)	1680
Kutb-ud-dīn Kokaltāsh	1606	Ibrāhīm Khān II	1689
Jahāngīr Kulī	1607	Azīm-ush-shān	1697
Shaikh Islām Khān	1608	Murshid Kulī Khān	1704
Kāsim Khān	1613	Shujā-ud-dīn Khān	1725
Ibrāhīm Khān I	1618	Sarfarāz Khān	1739
Shāh Jahān	1622	Alī Vardi Khān	1740
Khānazād Khān	1625	Sirāj-ud-daula	1756
Mukarram Khān	1626	Mīr Jafar	1757
Fidai Khān	1627	Mīr Kāsim Alī Khān	1760
Kāsim Khān Jābūni	1628	Mīr Jafar (again)	1763
Azīm Khān	1632	Najīm-ud-daula	1765
Islām Khān Mashhadi	1637		

The history of Bengal under the British is part of the general history of India. The earliest European traders in Bengal were the Portuguese, who began to visit CHITTAGONG* and SĀTGAON near HOOGHLY about the year 1530. They were well established at Hooghly when Ralph Fitch travelled through the country in 1586. Factors of the East India Company, coming from Surat by way of Agra, first visited Patna in 1620. About 1625 the Dutch settled at CHINSURA and at Pipli in the north of Orissa, and about 1642 the first factory of the East India Company in this Province was established near BALASORE. In 1650 a factory was started at Hooghly, where trade was greatly facilitated by a *farmān* obtained in the following year from the emperor Shāh Jahān by a surgeon of the Company named Boughton, who had succeeded in curing a lady of the royal family. Shortly after this factories were started at Cossimbāzār and Patna, and a few years later a fifth was opened at Dacca*. These settlements in Bengal were at first worked in subordination to Fort St. George at Madras, but in 1681 they were constituted an independent charge. The sole object of the Company at this time was trade, the articles most in demand being saltpetre, silks, and muslins. Their dealings were hampered by constant disputes with the Nawāb and his local officials, who tried to exact what they could; and on more than one occasion hostilities broke out, in which, on the whole, the Company's servants held their own. Sūtānuti, the northern part of modern Calcutta, was occupied as his head-quarters by Job Charnock, temporarily in 1686, and permanently in 1690, and by 1710 the old Fort William had been constructed. In 1698 the Company was permitted to purchase, for Rs. 1,300, the three villages

of Calcutta, Sūtānuti, and Gobindpur, subject to a revenue of Rs. 1,195; and in 1717 the purchase was sanctioned of thirty-eight more villages, paying a revenue of Rs. 8,121.

In June, 1756, Sirāj-ud-daula, the Nawāb of Bengal, finding that the English, in fear of an attack by the French, who had established themselves at CHANDERNAGORE in 1688, were strengthening the fortifications of Calcutta without his permission, marched against the place and took it. It was then that occurred the massacre of the Black Hole. The European prisoners, 146 in number, were confined in a small room, only 18 feet by 14 feet, and next morning all but 23 were found to have died of suffocation. A force was immediately dispatched from Madras under Clive, who advanced in 1757 towards Murshidābād. The Nawāb, with a large army, met him at PLASSEY, but was utterly defeated; Mīr Jafar was appointed Nawāb, but was soon afterwards ousted in favour of his son-in-law, Mīr Kāsim. The latter, exasperated by the exactions of the servants of the Company and their interference with the transit duties, engaged in hostilities, but was twice defeated. He fled to Oudh, after causing a number of English prisoners at Patna to be put to death. The Nawāb of Oudh espoused his cause; but the combined armies were defeated by Major Munro at BUXAR in 1764, and the Dīwāni or civil authority over Bengal, Bihār, and Orissa was conferred in perpetuity on the East India Company by the emperor Shāh Alam[1]. The result was that the centre of British power was transferred from Madras to Calcutta, and that from 1774 to 1854 the Governorship of Bengal was merged in the Governor-Generalship of the Company's territories in India. The French Settlement at Chandernagore was captured at the same time, but was subsequently restored, and the place is still a French possession administered in subordination to the French governor of Pondicherry.

In 1765 was inaugurated Clive's celebrated 'dual system,' by which it was thought that the Company would get all the benefit from its new possessions, without the trouble and responsibility involved in their actual administration. Mīr Jafar was reinstated as Nawāb; but he was required to execute an agreement by which the Company received the revenues and undertook the military defence of the country, while he carried on the civil administration in return for a fixed stipend. The revenue was collected by Naibs or Deputy-Nawābs. This dual government was found most unsatisfactory; the people were subjected to great oppression, while the collections rapidly declined. In 1769–70 there was a terrible famine in which a third of the population is said to have perished, and which is believed to have been aggravated by the misgovernment of the agents of the Nawāb and the ignorance of local

[1] Orissa was at the time in the possession of the Marāthās, and it was not until 1803 that it was conquered and annexed by Lord Wellesley.

conditions on the part of British officials. After several abortive experiments an entirely new system was introduced by Warren Hastings. European Collectors were appointed in each of the fourteen Districts into which Bengal was then divided, and the collection of the revenue was placed in their hands. They were also placed over the Dīwāni Adālat or civil courts, where they were assisted by the advice of experienced native officials. The Faujdāri Adālat or criminal courts were still presided over by Muhammadan officials, but the Collector was required to see that all witnesses were duly examined and that the decisions were fair and impartial. Appeals from the local civil and criminal courts were allowed to two superior courts in Calcutta. Subsequently the European Collectors were replaced by native *āmils*, and the superintendence of the collection of the revenue was vested in six Provincial Councils, at Calcutta, Burdwān, Dacca*, Murshidābād, Dinājpur*, and Patna. The *āmils* administered civil justice, while the criminal courts were presided over by native officers called *faujdārs*. Further changes were made; but when Lord Cornwallis became Governor-General in 1786, the original system of Warren Hastings was reverted to, with this difference that the Collector was himself Civil Judge and Magistrate. For some years longer serious criminal cases were required to be referred for trial to the Deputy of the Nawāb, but in 1793 four courts of circuit, superintended by covenanted servants of the Company, were established to try cases not cognizable by the magistrates. Separate judges were next appointed in each District, with native subordinates to deal with petty civil cases.

Various further improvements and alterations were from time to time effected, notably in 1829, when Commissioners of Revenue and Circuit were appointed, but it is unnecessary to discuss them in detail. The system of administration at the present day is the direct outcome by a gradual process of evolution of the arrangements made by Lord Cornwallis.

In 1836 the now overgrown Bengal Presidency[1] was divided into two parts—Fort William in Bengal, and Agra—and a separate Lieutenant-Governor, subordinate to the Governor-General, was appointed for the latter. The former, which included the whole of what now constitutes the Province of Bengal and the territories comprised in the Province of Eastern Bengal and Assam[2], remained under the direct control of the Governor-General, who was authorized, when absent from the Province, to nominate a Deputy-Governor from among the ordinary Members of his Council, to carry on the government. This arrangement continued

[1] The varying meaning of the term has already been explained on p. 195.

[2] Sylhet, Goālpāra, and the Gāro Hills formed part of Bengal from the beginning of British rule; the Assam Valley proper was acquired from Burma in 1826, and the other tracts on different dates which need not here be detailed.

until 1854, when the Governor-General was relieved of the direct administration of Bengal by the appointment of a permanent Lieutenant-Governor. The change was much needed, as the Governor-General being frequently absent, and his Deputy-Governor, who was usually the senior ordinary Member of Council for the time being, constantly changing, the element of personal continuity at the head of the Administration was sadly lacking. The names of the successive Lieutenant-Governors of Bengal are noted below[1]:—

Sir Frederick Halliday . .	1854	Sir Rivers Thompson . .	1882
Sir John Peter Grant . .	1859	Sir Steuart Bayley . .	1887
Sir Cecil Beadon . . .	1862	Sir Charles Elliot . .	1890
Sir William Grey . . .	1867	Sir Alexander Mackenzie .	1895
Sir George Campbell . .	1871	Sir John Woodburn . .	1898
Sir Richard Temple . .	1874	Sir James Bourdillon . .	1902
Sir Ashley Eden . . .	1877	Sir Andrew Fraser . .	1903

The events of the Sepoy Revolt took place chiefly in Upper India, and the rising in Bengal was comparatively unimportant. But the story of the greased cartridges had its origin at Barrackpore, and both there and at Berhampore, Dinapore, and Dacca*, the sepoys mutinied. They were, however, quickly suppressed; and it was only in Bihār that events for a time took a serious turn, especially in Shāhābād, where the defence of the billiard-room at Arrah, by a handful of Civilians and Sikhs, against the onslaught of the sepoy mutineers from Dinapore and the levies of a local Rājput *zamīndār*, forms one of the most splendid pieces of gallantry in the history of the British arms.

In 1864 repeated raids by the Bhutānese, and the barbarous outrages committed on the British Envoy sent to negotiate with the Bhutān government, led to a campaign in which the Bhutānese were worsted and the British troops took possession of the Duārs, i.e. the passes into the hills and the adjoining lowlands; and in 1865 a treaty was concluded by which those territories were ceded to the British Government in return for a fixed annual payment. In 1874 the Districts constituting the Province of Assam were separated from Bengal and placed under a Chief Commissioner. In 1888 the Tibetans having advanced into Sikkim, an expedition was sent against them. They were defeated with ease, the campaign ending with their complete expulsion from Sikkim, and that State was brought into closer relations with the British Government by the appointment of a resident Political officer. This was followed by the execution of a convention which provided for the improvement of the trade relation with Tibet; but the results in this respect were disappointing, and in 1904 a British Mission was sent into Tibet and penetrated as far as Lhāsa, where a new convention was executed by the Tibetan authorities.

[1] Short officiating appointments have been omitted.

The oldest remains of ascertained date are a series of inscriptions of Asoka, partly on rocks, as at DHAULI in Purī District and in a small cave high on the Chandān Pīr hill at SASARĀM, and partly on pillars, four in number, marking the route taken by the great king through Muzaffarpur and Champāran, on his visit to the sacred sites of Buddhism in what is now the Nepāl *tarai*; of the latter the pillar near LAURIYĀ NANDANGARH is still almost perfect. Next, in point of time, come the caves on the KHANDGIRI and UDAYAGIRI hills, in the District of Purī, which were long believed to be Buddhist but are now thought to be mostly of Jain origin. Their period is fixed by an inscription of Kharavela in 165 B.C. With the exception of the Sonbhandar cave at RĀJGIR, dating from the third century A.D., these are the only Jain remains with any claim to antiquity. Buddhist relics, though frequently reduced to mere heaps of bricks, are far more plentiful, especially in South Bihār—the ancient Magadha, the birthplace of Jainism as well as of Buddhism—where the latter religion continued to flourish more or less until finally swept away by the Muhammadans. At BUDDH GAYĀ are still to be seen portions of an ancient stone railing, with interesting carvings in relief, dating from about the time of Asoka, which originally surrounded the holy *pīpal*-tree there. The present temple of Buddh Gayā was probably erected about A.D. 450, but it underwent many additions and repairs before it fell into ruins; its restoration was effected about twenty years ago under the auspices of Government, but the method in which the work was carried out has been much criticized. Interesting remains of the ancient city of Pātaliputra have recently been discovered at PATNA by Major Waddell. Numerous mounds at BARAGAON, 7 miles south of Bihār town, bury the remains of Nālanda, a famous seat of Buddhist learning in the days of the Pāl kings. The innumerable Buddhist images still to be seen in every village in South Bihār date from the same period.

The temple of Jagannāth at Purī and the Saiva temples at Bhubaneswar have already been mentioned. The latter have recently been repaired, and efforts are now being made to remedy the inroads made by time and mischief in the temple of the Sun God at Konārak, which was built by Nara Sinha Deva about A.D. 1275. Among other Hindu remains, which are far from numerous, may be mentioned the temples on the MUNDESWARI HILL in Shāhābād and at AFSAR near Gayā, both dating from the sixth or seventh century; a number of stone temples at BARĀKAR and elsewhere in the old tract of Jhārkand, some of which are upwards of 500 years old; and some Bengali brick temples, from 200 to 400 years old, of which those at BISHNUPUR in Bānkurā and at KĀNTANAGAR in Dinājpur* are typical examples.

Under the rule of the independent Muhammadan kings, Bengal proper developed a peculiar style of Pathān architecture, the most

striking feature of which is the curved battlement, imitating the peculiar shape of a Bengali hut. GAUR and PANDUA, in the District of Mālda*, the ancient capitals of those dynasties, still contain the best specimens of this type, such as the Bāraduāri of Rāmkel, the Dākhil Darwāza, the Tāntipāra, Sonā, and Lotan mosques, the Kadam Rasūl, and the Fīroz Minār. The Adīna mosque, at Pandua, was built by Sultān Sikandar Shāh in 1368. It is constructed almost entirely from the spoils of Hindu temples, which must have abounded in this neighbourhood[1]. Many of these are now being repaired. Among other buildings of this period may be mentioned the curious Shāt Gumbaz, a mosque with seventy-seven domes, near BĀGHERHĀT in the District of Khulnā, built by Khān Jahān, whose tomb is close to the mosque. At a second PANDUA, in Hooghly District, there is a large mosque and *minār* of about the year 1300, and close to it, at TRIBENĪ, is the *dargāh* of Zafar Khān Ghāzī and a mosque of the same period.

The short reign of Sher Shāh is still borne witness to by one of the finest specimens of Muhammadan sepulchral architecture, his own tomb at Sasarām, which place he originally held as his *jāgīr*. His father's tomb in the same town, and the tomb of Bakhtyār Khān, near Chainpur, in the Bhabuā subdivision of Shāhābād District, are similar but less imposing. The small hill fort of SHERGARH, 26 miles southwest of Sasarām, dates from Sher Shāh's time, but at ROHTĀSGARH itself little remains of his period; the palace at this place is attributed to Mān Singh, Akbar's famous general. The *dargāh* of Shāh Daulat at MANER, near Dinapore, completed in 1616, is a fine specimen of architecture of the Mughal period; it is covered with most exquisite sandstone carvings. There are numerous other tombs and mosques of the same period at Patna, Bihār, Rājmahāl, Murshidābād, Monghyr, Dacca*, &c.; but they are of little interest compared with similar buildings in other parts of India.

The distribution of the population[2], as disclosed by the Census of 1901, is shown in Tables II and IIA at the end of this article (pp. 343-5).

Population.

The total population of the Province, including Native States, is 78,493,410, of whom 39,278,186 are males and 39,215,224 females. Of the total number, 74,744,866 are in British territory and 3,748,544 in Native States.

In the Province[3] as a whole there are 400 persons to the square mile, but the density varies remarkably in different parts. It is greatest

[1] It has already been mentioned that Pandua is believed by many to be identical with the ancient Paundravardhana.

[2] The population of the Province as now constituted is 54,662,529, of whom 27,140,616 are males and 27,521,913 females. Of the total number 50,722,067 are in British territory and 3,940,462 in the Native States.

[3] The present area of Bengal contains 368 persons to the square mile.

in North Bihār, where there are 634 persons to the square mile. Central Bengal and West Bengal are also thickly peopled. Then follow South Bihār, Orissa, East and North Bengal, and last the Chotā Nāgpur plateau, which, with only 152 persons per square mile, is the area of least dense population. The density is far from uniform even in the same natural division. In East Bengal, for example, Dacca District* has 952 persons to the square mile, while the Chittagong Hill Tracts* have only 24, and in North Bihār the number ranges from 908 in Muzaffarpur to 375 in Purnea. Howrah, with 1,668 persons to the square mile, is the most thickly-inhabited District in Bengal, while the most sparse population (21 to the square mile) is found in Sikkim and in the Chāng Bhakār* and Korea* Tributary States of Chotā Nāgpur (22 to the square mile). Marked variations are sometimes found even within the borders of a single District, e.g. in Dacca*, where the Srīnagar police circle contains 1,787 inhabitants to the square mile compared with only 415 in Kāpāsia. As a general rule it may be said that the tracts where cold-season rice is the chief staple of cultivation are capable of supporting the largest number of inhabitants. Some parts of Bihār, where other crops are mainly grown, have a fairly dense population; but their inhabitants are not wholly dependent on local sources of income, and a large proportion of the adult males earn their livelihood in other parts of the Province, whence they make regular remittances for the support of their families.

In the Province as a whole, out of every 100 persons, 95 live in villages and only 5 in towns[1]. Bengal is a distinctly agricultural country, and many even of the so-called towns are merely overgrown villages. The urban population is considerable only in Central Bengal, where the inclusion of Calcutta and its environs brings the proportion up to 19 per cent. The second place is shared by West Bengal, with its flourishing industrial centres at HOWRAH, BALLY, SERAMPORE, and RĀNĪGANJ; and by South Bihār, with its ancient towns of PATNA, GAYĀ, MONGHYR, and BIHĀR. In both these tracts 7 per cent. of the inhabitants live in urban areas. Orissa follows with an urban population of 4 per cent., then North Bihār and North Bengal with 3 per cent., and, lastly, East Bengal and the Chotā Nāgpur plateau with only 2 per cent. The order in which the different tracts stand is sufficient to show the want of any connexion between the prosperity of the people and the growth of towns. The general standard of comfort is highest in East Bengal, although it has the smallest proportion of persons living in towns. South Bihār ranks comparatively high in respect of its urban population, and yet it includes the poorest part of the Province. The older towns, which usually owed their origin to the presence of a native court, have few industries, and such as they possess are for the most part decadent;

[1] Of the present population 94 per cent. live in villages and 6 per cent. in towns.

while in the newer towns the industries are carried on by foreign capital, and even the employés come from other parts of the country. The mills of Howrah and the coal-mines of ASANSOL are alike worked, with British capital, by coolies from Bihār and the United Provinces, and the shopkeepers, who are enriched by the trade they bring, are also for the most part foreigners.

The population of Calcutta, as limited by the jurisdiction of the municipal corporation, is 848,000; but to this should be added that of its suburbs (101,000), and also of Howrah (158,000), which lies on the opposite bank of the Hooghly and is as much a part of Calcutta as Southwark is of London. With these additions, the number of inhabitants rises to 1,107,000, which is greater than that of any European city except London, Constantinople, Paris, and Berlin. Next to Calcutta Howrah is now the largest town in Bengal. It is of entirely modern growth, and owes its position to its growing importance as a manufacturing centre. The increase during the last decade has been 35 per cent., and it has grown by no less than 80 per cent. since 1872. Patna, which stands next, has a very ancient history, and its population was once much greater than at present. It was estimated by Buchanan Hamilton at 312,000; but his calculation referred to an area of 20 square miles, whereas the city as now defined has rather less than half that area. At the present time its prosperity is declining, owing to the gradual diversion of trade from the river to the railway. At the time of the Census plague was raging in the city, and the recorded population was only 134,785. Six months later, when the epidemic had subsided, a fresh count showed it to be 153,739, which was still less by nearly 17,000 than in 1881. Dacca* was also a flourishing city long before the days of British rule. For about a century it was the capital of the Nawābs, and its muslins were once famous throughout Europe. When the demand for these muslins declined, its prosperity was seriously affected, and in 1830 its inhabitants numbered only about 70,000. Since then the growth of the jute trade has caused a revival, and the population has now risen to 90,542.

The villages of Bengal vary greatly in different parts. In Bihār, especially south of the Ganges, the buildings are closely packed together, and there is no room for trees or gardens. As one goes eastwards, the houses, though still collected in a single village site, are farther apart, and each stands in its own patch of homestead land, where vegetables are grown, and fruit trees and bamboos afford a grateful protection from the glare of the tropical sun. Farther east, again, in the swamps of East Bengal, there is often no trace of a central village site, and the houses are found in straggling rows lining the high banks of rivers, or in small clusters on mounds from 12 to 20 feet in height laboriously thrown up during the dry months when the water temporarily disappears. The

average population of a village is 335, but the definition of this unit for census purposes was not uniform. In some parts the survey area was adopted; elsewhere the residential village with its dependent hamlets was taken; but in practice it was often found very difficult to decide whether a particular group of houses should be taken as a separate entity or treated as a hamlet belonging to some other village.

The information regarding the early population of Bengal is scanty and unreliable. In 1787 Sir William Jones thought that it amounted to 24 millions, including part of the United Provinces then attached to Bengal. Five years later Mr. Colebrooke placed it at 30 millions. In 1835 Mr. Adam assumed it to be 35 millions, but this estimate was thought too high and was reduced to 31 millions in 1844. In 1870 the population was held to be about 42 millions, or more than a third less than the figures disclosed by the first regular Census of the Province, which was taken in 1872. The changes recorded by subsequent enumerations are shown below:—

Locality.	Percentage of variation.			
	1872-81.	1881-91.	1891-1901.	Net variation, 1872-1901.
Province*	+ 11·5	+ 7·3	+ 5·1	+ 25·9
West Bengal	− 2·7	+ 3·9	+ 7·1	+ 8·3
Central ,,	+ 11·7	+ 3·1	+ 5·1	+ 21·3
North ,,	+ 5·3	+ 4·4	+ 5·9	+ 16·6
East ,,	+ 10·9	+ 14·1	+ 10·4	+ 39·9
North Bihār	+ 14·0	+ 5·8	+ 0·1	+ 20·8
South ,,	+ 10·9	+ 2·6	− 3·6	+ 9·7
Orissa	+ 17·6	+ 6·8	+ 7·1	+ 34·5
Chotā Nāgpur plateau	+ 32·1	+ 13·5	+ 7·8	+ 61·8

* The corresponding percentages of variation for Bengal as now constituted are + 3·2, + 6·5, + 13·5, and + 24·7.

Between 1872 and 1881 the Chotā Nāgpur plateau showed the greatest apparent growth of population, but this was due mainly to the inaccuracy of the first Census in this wild, remote, and sparsely-peopled tract. Orissa, which came second, had suffered a terrible loss of population in the great famine of 1866, and its rapid growth was the natural reaction from that calamity during a period of renewed prosperity. In North and South Bihār, as in Chotā Nāgpur, the Census of 1872 was defective, and the increment recorded in 1881 was to a great extent fictitious. The decline in West Bengal was due to a virulent outbreak of malarial fever. Between 1881 and 1891 the apparent rate of development in East Bengal and Chotā Nāgpur was about the same, but the latter tract again owed part of its increase to better enumeration, and the real growth was greatest in East Bengal. Then followed Orissa and North

Bihār, then North Bengal, and then, in order, West Bengal, Central Bengal, and South Bihār. At the Census of 1901 East Bengal again heads the list, and is followed in order by the Chotā Nāgpur plateau, Orissa, West Bengal, North Bengal, and Central Bengal. The population of North Bihār is stationary, while that of South Bihār has suffered a loss of 3·6 per cent.

So far as the figures go, the rate of growth in the Province as a whole shows a progressive decline, but this is due to a great extent to omissions at the earlier enumerations. The pioneer Census of 1872 was admittedly very incomplete. That of 1881 was much more accurate; and although it is impossible to estimate, even approximately, the extent to which this affected the comparative results of the two enumerations, it would probably be quite safe to say that, if the two enumerations had been equally accurate, the excess of the figures for 1881 over those for 1872 would have been less than the increment disclosed by the Census of 1901 as compared with that of 1891. But although the Census of 1881 was very much more complete than that of 1872, there were still tracts where the standard of accuracy fell considerably below that attained ten years later; and it has been estimated that of the increase disclosed by the Census of 1891, about half a million may be ascribed to the greater accuracy of that enumeration, but even so the increment then recorded exceeds that of the last decade by about 800,000. It is calculated that the plague, which appeared for the first time in 1898, accounted for 150,000 deaths; while the cyclone of October 24, 1897, which devastated large tracts in Chittagong*, is believed to be responsible, directly and indirectly, for a mortality of about 50,000. Apart from the deaths due to plague and cyclone, there seems no reason to believe that there has been any general increase in the death-rate, and the slower rate of growth seems to be due rather to a falling off in the birth-rate. In Orissa and Central and West Bengal the birth-rate prior to 1891 was abnormally high, owing to the recovery, in the one case, from the famine of 1866, and, in the other, from the ravages of malarial fever. In Bihār successive bad seasons have led to various preventive checks on the growth of the population; but, as noticed elsewhere, they do not appear to have affected the death-rate, and it is only among the wild tribes of Chotā Nāgpur that a certain amount of mortality was possibly attributable to famine.

The number of immigrants to Bengal from other parts of India, according to the Census of 1901, is 728,715, and the corresponding number of emigrants is 879,583. By far the greatest influx is from the United Provinces, which send a continually growing supply of labourers for the mills of the metropolitan Districts and the coal-fields of Burdwān and Mānbhūm, and for earthwork, *pālki*-bearing, &c., throughout the Province. The total number of persons born in the United Provinces

and its States, but enumerated in Bengal, was 496,940 in 1901, compared with 365,248 in 1891 and 351,933 in 1881. These figures include the ebb and flow between contiguous Districts along the boundary line. If this be left out of account, the number of immigrants from the United Provinces at the Census of 1901 is about 416,000. Of these, nearly three-sevenths were residing in Calcutta, the Twenty-four Parganas, and Howrah[1]. The emigrants to the United Provinces number only 128,991, of whom all but about 32,000 were found in Districts contiguous to the District of their birth.

The emigrants from Bengal to Assam in 1901 numbered nearly 504,000, or 85,000 more than at the previous Census. Of these, 300,000 were from the Chotā Nāgpur plateau, which is the great recruiting ground for the tea gardens of Assam. About 157,000 persons born in Bengal were enumerated in Burma, compared with 112,000 in 1891. The majority were harvesters from the adjoining District of Chittagong*; but many also were from Bihār, and some of these have been settled on waste-land grants in Upper Burma.

Of migration within the Province, the most noticeable feature is the great movement from Bihār to Bengal proper in quest of employment in coal-mines and factories, or on earthwork, or as field-labourers. These immigrants are for the most part adult males who eventually return to their old homes. Their total number at the time of the Census was very little short of half a million. Another internal movement of a more permanent nature is that of the tribes of the Chotā Nāgpur plateau, who, in addition to 300,000 persons enumerated in Assam, have given 400,000 to Bengal proper. The Santāls have been working their way steadily north and east for seventy years or more, and are now found in considerable numbers in the elevated tract known as the Bārind, in the centre of North Bengal, which they are rapidly bringing under cultivation. The other tribes are following their lead as pioneers of cultivation; many also take service in the coal-fields and in the tea gardens of Jalpaigurī* and the Darjeeling *tarai*, and large numbers leave their homes every cold season to obtain employment on earthwork or as field-labourers.

The age return is so inaccurate that very little reliance can be placed on the absolute results. The degree of error may, however, be assumed to be fairly constant, and, if so, some interesting conclusions may be deduced by a comparison of the figures for successive Censuses. It would seem that the mean age of the population, which fell slightly in

[1] The Districts of the United Provinces from which most of the immigrants come are those in the extreme east: namely, Ballia, Azamgarh, Ghāzīpur, Gorakhpur, Benares, Jaunpur, Mirzāpur, and Allahābād. Then come the Districts immediately to the west of these: namely, Fyzābād, Sultānpur, Partābgarh, Rāe Barelī, Lucknow, Fatehpur, and Cawnpore.

1891, has now risen to a somewhat higher figure than in 1881[1]. This is due mainly to the variations in the birth-rate. The population was growing more rapidly than usual in the decade ending 1891, which was a period of recovery from famine and disease, and the larger proportion of young children reduced the average age of the population as a whole. The higher castes appear to live longer than the aboriginal tribes, while the latter have larger families than any other section of the community. There does not seem to be much difference in the relative longevity of Hindus and Muhammadans, but the latter have a larger proportion of children than the Hindus, and the mean age of the community is consequently lower.

Births and deaths are recorded throughout the Province, except in Angul, the Chittagong Hill Tracts*, and the Feudatory States. The present system of mortuary registration was introduced in 1869. The duty of reporting deaths was imposed on the *chaukīdārs*, or village watchmen, and not on the relations of the deceased. In 1876 the system was extended to births; but the returns received were so incomplete that they were soon discontinued and, except in towns, for which special legislation was undertaken in 1873, deaths alone were registered until 1892. In that year the collection of statistics of births as well as of deaths was ordered, and the system now in vogue was introduced. In the Chaukīdāri Amendment Act of 1892, the reporting of vital occurrences was made one of the legal duties of the *chaukīdārs*. The births and deaths occurring in each beat are entered on leaflets by the *chaukīdār*, or, if he be illiterate, by the *panchāyat*, and taken by the former to the police station when he attends his weekly muster. A consolidated monthly statement is compiled at the police station and submitted to the Civil Surgeon, who prepares a similar return for the whole District. The accuracy of the reporting is checked by the police and other local officers, but the most valuable testing agency is that of the vaccination establishments, who are required to make inquiries regarding vital occurrences when on their rounds to test the vaccination operations. Errors and omissions thus brought to light, which usually range from 1 to $1\frac{1}{2}$ per cent. on the total number of vital occurrences, are communicated to the District Magistrate and the *chaukīdārs* at fault are punished. Under the special Act for towns the reporting of births and deaths by the nearest male relative was made compulsory. The information was collected for some time by the municipal authorities, but the results were not satisfactory, and the duty was subsequently transferred to the police.

[1] By mean age is meant the average age of the living, which (except in a stationary population) is not the same thing as the mean duration of life. The mean age of males is calculated to have been 24.2 years in 1881, 24.0 in 1891, and 24.3 in 1901. These figures, however, are mere approximations.

These measures have led to a great improvement in the accuracy of the vital statistics. The latest estimate of the birth and death-rates in Bengal is that of Mr. Hardy, F.I.A., F.S.S., based on the Census figures for 1891 and 1901, which places them at 43·9 and 38·9 per 1,000 respectively. The rates according to the returns are still below this estimate, but the figures reported from year to year show a gradual improvement; and they are now sufficiently accurate not only for the purpose of showing the relative healthiness or unhealthiness of the year, but also for calculating the approximate growth of the population. The increase shown by the Census of 1901, as compared with that taken ten years previously, in the areas for which vital statistics are collected, was 3,358,576, while that indicated by the excess of reported births over deaths was 3,159,200. In Noākhāli* in 1900 the reported birth-rate was 52·3 per 1,000 calculated on the population disclosed by the Census of 1901, and in Patna in 1901 the reported mortality was 56·8.

According to the returns, more than 70 per cent. of the total mortality is ascribed to fever. This is due mainly to the difficulty of diagnosing all but a few well-defined diseases. Cholera, dysentery, and small-pox are known, but most other complaints are classed indiscriminately as fever. It is impossible to say what proportion of the total is attributable to malarial affections, but it may safely be assumed that, wherever the mortality entered under 'fevers' is unusually high, the greater part of the excess over the normal is due to their prevalence. On an average, about one-twelfth of the total mortality is due to cholera, but the prevalence of this disease varies greatly from year to year and from District to District. In 1898 it was responsible for less than 1 death per 1,000 of the population of the Province, but in 1900 the mortality from it rose to nearly 5 per 1,000. In the latter year it killed off nearly 24 persons in every 1,000 in Purnea, while in Bānkurā only 1 person in 4,000 died from the disease. Dysentery and diarrhoea account for barely a quarter as many deaths as cholera, while small-pox claims only 1 victim in every 5,000 persons yearly.

Plague first appeared in Bengal in 1898, when there were two outbreaks, one in Calcutta and the other in Backergunge*. In the early part of 1899 it again visited Calcutta, and there were also outbreaks in ten rural Districts; and in the cold-season months of 1900–1 the disease spread over a larger area, not less than 40,000 deaths being caused by it during that period. Plague has now become an annual visitation in many parts of the Province, altogether twenty-seven Districts being affected in 1905. In the eastern Districts the conditions, whether of soil, climate, or habitations, seem to be inimical to the propagation of the microbe; but in the north-western part of the Province, and particularly in the Patna Division, the disease has established itself firmly, coming and going with the seasons with

wonderful regularity, being most prevalent in the winter, and then practically disappearing or remaining dormant throughout the hot and rainy seasons, to recrudesce in September with the advent of the cold season. The mortality from plague in 1905 was the highest on record since it first broke out in 1898, the total number of deaths being 126,000, as against 75,000 in 1904 and 58,000 the average of the preceding quinquennium.

As in other parts of India, so also in Bengal, the infant mortality is very high, and it was estimated in 1891 by Mr. Hardy that only 71 per cent. of male and 75 per cent. of female children survive the first year of life. During the second year the mortality is believed to be only one-third as great as in the first year, and it then continues to fall rapidly.

VITAL STATISTICS AS REGISTERED

	Population under registration.	Ratio of registered births per 1,000.	Ratio of registered deaths per 1,000.	Deaths per 1,000 from			
				Cholera.	Small-pox.	Fever.	Bowel complaints.
1881	66,106,026	Not available.	19·0	1·3	0·4	15·7	0·9
1891	70,388,083		26·9	3·3	0·2	18·9	0·6
1896	71,070,233	38·0	34·2	3·2	0·2	24·8	0·7
1901	74,428,193	38·6	31·0	1·5	0·5	21·7	0·8

The actual population shows a slight deficiency of females, who number only 998 to every 1,000 males[1]; but if the effects of migration be discounted by considering only the natural population, i.e. the persons born in the Province, it appears that the females exceed the males in the ratio of 1,003 to 1,000. They are in marked excess in Bihār and Orissa and, to a less extent, in West Bengal and the Chotā Nāgpur plateau. East of the Bhāgīrathi, where the Mongoloid element in the population is largest, they are in a considerable minority. There has been a steady decline in the proportion of females since 1881, due to the fact that the most progressive tracts are, generally speaking, those where males predominate, while many of the Districts with the largest proportion of the other sex are stationary or decadent. In urban areas females are generally in marked defect, and in Calcutta they are only half as numerous as the males.

The most striking fact brought out by the statistics of marriage is the universality of this institution. The number of persons, other than those suffering from some bodily or mental affliction, who go through life unmarried is extremely small. About half the total number of males were returned at the Census as unmarried, but of these four-fifths were under fifteen years of age. Only one-third of the female popula-

[1] In the present area of Bengal there are 1,015 females to every 1,000 males.

tion was unmarried, and of these only 4 per cent. were over fifteen. The proportion of the widowed is about 1 in 25 in the case of males, but among females nearly 1 in every 5 is a widow.

The marriage practices vary greatly in different parts of the Province, especially in regard to females. The girls of the animistic tribes marry when they are about seventeen or eighteen years of age. Muhammadan girls marry earlier, but not so early as those of the Hindus, with whom marriage before puberty is the rule. In some parts of Bihār the Hindus give their children in wedlock much earlier than elsewhere, and in Darbhangā and the neighbourhood both boys and girls are frequently married before the age of five. Widows remarry most freely amongst the animistic tribes, and least so amongst the Hindus. Hindu widows of the higher castes are everywhere forbidden to take a second husband, and in Bengal proper the prohibition extends to all but the lowest castes. The result is that the proportion of Hindu women of child-bearing age who are widowed is nearly twice as great in this tract as elsewhere. In the Province as a whole the age at marriage is gradually rising, while the proportion of the widowed is diminishing. The former circumstance is due, in part at least, to a genuine change in the customs of the people. In Darbhangā and the neighbourhood, infant-marriage is as prevalent as ever, but elsewhere the tendency is to postpone the age at which girls are given in wedlock. The decline in the number of widows is due partly to the fact that the Muhammadans, animistic tribes, and low Hindu castes, who permit their widows to marry again, are increasing more rapidly than the section of the community that forbids them to do so, and partly to the effect of the preaching of the Maulvis amongst the Muhammadans and to the gradual disappearance of their old Hindu prejudices against widow marriage.

Polygamy is allowed among Hindus, Musalmāns, and Animists alike, but in the case of the first-mentioned it is often accompanied by restrictions; many castes allow a man to take a second wife only when the first is barren or suffers from some incurable disease; frequently the permission of the caste *panchāyat* has to be obtained, and in some cases that of the elder wife. With the Muhammadans there are in theory no restrictions on the practice, so long as a man does not exceed the limit of four wives prescribed by the Prophet, but in practice the poorer classes at least are almost invariably monogamous. The fraternal form of polyandry, where a man's younger brothers share his wife, still survives amongst the Bhotiās; but it seems to be dying out. The woman is regarded as the wife of the elder brother, and the children that are born of her call him 'father' and his brothers 'uncle.' The woman moreover can, if she wishes, withhold her favours from the younger brothers. A somewhat similar system prevails amongst the Santāls.

Civil condition.	Sex.	1881.	1891.	1901.
Unmarried	Male	15,403,131	16,881,400	17,747,071
	Female	9,830,370	11,096,693	11,701,711
	Total	25,233,501	27,978,093	29,448,782
Married	Male	16,381,811	17,138,038	18,103,648
	Female	16,445,679	17,257,257	18,151,092
	Total	32,827,490	34,395,295	36,254,740
Widowed	Male	1,333,163	1,484,295	1,526,063
	Female	7,195,705	7,382,018	7,515,281
	Total	8,528,868	8,866,313	9,041,344

NOTE.—The figures are for British Districts only, and those for 1881 and 1891 exclude the Chittagong Hill Tracts* as civil condition in that District was not recorded at those enumerations.

Excluding immigrants, the languages spoken in Bengal belong to one or other of four linguistic families: Aryan, Dravidian, Mundā or Kolarian, and Tibeto-Burman. Of these, the languages of the Aryan family are by far the most important, being spoken by no less than 95 per cent. of the total population. The Mundā family comes next, but its speakers represent only 3½ per cent. of the total, while the other two families each claim less than 1 per cent. The Aryan languages are spoken in the plains by almost the whole population, while those of the other families are current only in the hills or among recent settlers in the plains. The home of the Mundā and Dravidian dialects is in the Chotā Nāgpur plateau. The Tibeto-Burman languages are found partly in Darjeeling and Sikkim and the adjoining District of Jalpaigurī*, and partly in the south-eastern corner of Bengal, in the Chittagong Hill Tracts* and Hill Tippera*. There are also a few scattered colonies of people speaking languages of this family in Dacca* and Mymensingh*. All these non-Aryan dialects are gradually dying out, and are being replaced by some Aryan form of speech. The main Aryan languages of Bengal are Bengali, Bihārī, Eastern Hindī, and Oriyā. The Census does not distinguish Bihārī from Hindī. On the average, of every 1,000 persons in the Province, 528 speak Bengali, 341 Hindī (including Bihārī), 79 Oriyā, and 1 Khas, leaving only 51 persons per 1,000 for all the other languages put together.

Language spoken.	1881.	1891.	1901.
Bengali	35,785,208	37,898,102	40,714,099
Hindī	24,390,566	25,985,028	26,151,361
Oriyā	4,186,272	4,605,626	4,561,323
Mundārī	28,183	493,453	383,843
Ho	...	...	236,011
Santālī	1,004,239	1,360,220	1,510,881
Oraon	9,229	362,803	438,226

NOTE.—The figures are for British territory only.

Bengal proper, Bihār, and Orissa each has its own caste system, with

many castes not found elsewhere, and in the north there are numerous representatives of the caste system of Nepāl. Chotā Nāgpur is peopled mainly by Dravidian tribes who are still outside the pale of Hinduism, and on the eastern border there are many similar tribes of Mongoloid stock. The main characteristics of the Dravidians are a long head, a very broad bridgeless nose, a full round eye, thick protruding lips, hair inclined to be woolly, somewhat low stature, black colour, and absence of muscle on the limbs, especially the legs. The Mongoloid nose is also broad and bridgeless, but less so than the Dravidian; the head is short, the eye oblique and narrow, the cheek-bones very prominent, the hair coarse and straight, the colour inclined to yellow, and the figure short and clumsy, but very muscular. The Aryan type, which is comparatively rare in Bengal, except among some sections of the higher castes, differs markedly from the others. The head is long, like the Dravidian, but the features are finely cut, and the thin nose in particular is characteristic; the figure is tall and well shaped, and the hair is comparatively fine.

Owing to the size of the Province and the inclusion within its limits of the dissimilar tracts described above, the number of its castes and tribes is exceptionally great. There are 66 castes with 100,000 members, and 15 with a strength of more than a million: namely (in order of numbers), the Ahīr (or Goālā), Brāhman, Kaibartta, Rājbansi (including Koch), Namasūdra (Chandāl), Santāl, Chamār (including Muchī), Rājput, Kurmī, Teli, Kāyasth, Koiri, Dosādh, Bābhan, and Bāgdi. The Ahīrs, who number nearly four millions, are by far the most numerous; next follow the Brāhmans with nearly three millions, the Kaibarttas with two and a half millions, and the Rājbansis with over two millions. The Brāhmans and Kāyasths are found everywhere, and so also are the Chamārs, Telis, and Ahīrs, though to a less extent; the Rājputs, Kurmīs, Koiris, Dosādhs, and Bābhans are, in the main, Bihār castes. The home of the Kaibarttas and Bāgdis is in West, of the Rājbansis in North, and of the Namasūdras in East Bengal; the Santāls are one of the great non-Hindu tribes who inhabit the Chotā Nāgpur plateau.

The persons who described themselves at the Census as Hindus constitute 63 per cent. of the total population[1] of the Province, and the Muhammadans 33 per cent.; all other religions taken together make up only 4 per cent. of the population. Hindus are most numerous in Bihār (excluding Mālda* and East Purnea), Orissa, and West Bengal, and Muhammadans in the Districts lying east of the Bhāgīrathi and the Mahānandā. The Musalmāns of Bengal form more than two-fifths of the total number in India.

[1] In the present area of Bengal, Hindus constitute 78 per cent., Muhammadans 17 per cent., and other religions 5 per cent. of the population.

The actual numerical increase since 1891 is about the same for both the main religions; but compared with their previous strength, the followers of the Prophet have increased by nearly 8 per cent., while the Hindus have gained only 4 per cent. The most progressive part of the Province is that inhabited by Muhammadans, while Bihār, the stronghold of Hinduism, has returned a smaller population than in 1891; but this affords only a partial explanation of the figures, and the Muhammadans have gained ground in every Division as compared with their Hindu neighbours. The subject has been discussed at length in the *Census Report* for 1901, where it is shown that Islām gains to some extent through conversions from Hinduism, but chiefly on account of the greater prolificness of its adherents. They have a more nourishing dietary, their girls marry later, and they permit widow marriage. They are also, in Eastern Bengal, more prosperous than the Hindus, as they have fewer prejudices about changing their residence and move freely to new alluvial formations, where the soil is exceptionally fertile. The advance made by Islām is to some extent obscured by the fact that Hinduism has itself been gaining new recruits from the ranks of the animistic tribes—the Santāls, Mundās, Oraons, and other so-called aborigines. These tribes are very prolific, and yet the strength of the animistic religions has increased by only 1 per cent. The natural growth was probably at least 11 per cent., but this has been counterbalanced by conversions to Christianity and Hinduism. Christianity has taken some 60,000 during the decade. The rest (about 200,000) have entered the fold of Hinduism.

The conventional divisions of Hinduism are better known to the readers of textbooks than to the people themselves. In Bengal proper and Orissa, where the Vaishnava reformer, Chaitanya, gained a great following, the people may often give a definite reply to the question, whether they are followers of Vishnu or of Siva and his wife; but in Bihār it would be extremely difficult to collect accurate information on the subject. Moreover, it is only the members of the highest castes who concentrate their worship on the deities of the orthodox Hindu pantheon. The everyday religion of the lower orders consists largely of the propitiation of a host of minor deities and spirits. The personified powers of nature—the Earth, Sun, planets, and certain mountains and rivers—are worshipped everywhere; deified heroes are the main objects of veneration in many parts of Bihār, while in West and part of North Bengal snake-worship is widely prevalent. Farther east various aboriginal deities are adored as forms of the goddess Kālī. In addition, almost every village has its special tutelary spirits, who preside over the welfare of the community and have their home in a tree or sacred grove somewhere within its precincts. There are again numerous disembodied spirits of persons who have met with a painful or violent death, e.g. of

women who died in childbirth or of persons killed by wild animals. These hover round the scene of their former existence and cause various kinds of illness and misfortune, and they thus require to be propitiated. In the quaint and childish ceremonial observed at the worship and propitiation of these demons and spirits, the Brāhman has, as a rule, no place.

A third aspect of the amorphous collection of religious ideas known as Hinduism is furnished by the followers of the different persons who have from time to time set themselves up, sometimes as inspired teachers, but more often as incarnations of the supreme deity. The Kartābhajās, for example, regard their founder, a man of the Sadgop caste, as an incarnation of the Divinity, and his descendants are held in equal veneration. The exhibition of fervid love is the only form of religious exercise practised by them, and indescribable excesses are said to take place at their secret nocturnal meetings.

The religion of the uneducated majority of the people is a mixture of Hinduism and Animism, in which the belief in evil spirits is the main ingredient. There must be something tangible to represent a beneficent or even a malignant spirit, on which vermilion can be rubbed, over which a libation can be poured, and before which a fowl, goat, or pig can be sacrificed. Accordingly, the simple villagers set up a shapeless stone or block, or even a mound of mud, to represent the spirit whom they worship, while side by side with it is a temple dedicated to one of the regular gods of the Hindu pantheon. The architecture of these temples varies greatly in different parts of the Province. In Bihār their distinguishing feature is a tall pyramidal spire, the outline of which appears originally to have been determined by the natural bend of two bamboos, planted apart in the ground, and drawn together at the top. In Lower Bengal the temples are dome-shaped structures, with a peculiar hog-backed roof, which has obviously been modelled on the form of the ordinary Bengali huts surrounding them.

The Muhammadans of Bengal are mostly, in name at least, Sunnis. But the great majority are of Hindu origin, and their knowledge of the faith they now profess seldom extends beyond the three cardinal doctrines of the Unity of God, the Mission of Muhammad, and the Truth of the Korān. It was, until recently, the regular practice of low-class Muhammadans to join in the Durgā Pūjā and other Hindu festivals, and, although they have been purged of many superstitions, many still remain. In particular, they are very careful about omens and auspicious days. Dates for weddings are often fixed after consulting a Hindu astrologer; bamboos are not cut, and the building of new houses not commenced, on certain days of the week, and journeys are often undertaken only after referring to the Hindu almanac to see if the proposed day is auspicious. When disease is prevalent, Sītala and Rakshyā Kālī

are worshipped. Dharmarāj and Manasā or Bishaharī are also venerated by many ignorant Muhammadans. Sashthī is worshipped when a child is born. Even now in some parts of Bengal they observe the Durgā Pūjā and buy new clothes for the festival like the Hindus. In Bihār they join in the worship of the Sun, and when a child is born they light a fire and place cactus and a sword at the door to prevent the demon Jawān from entering and killing the infant. At marriages the bridegroom frequently follows the Hindu practice of smearing the bride's forehead with vermilion. Offerings are made to the *grāmya devatā* ('village god') before sowing or transplanting rice seedlings, and exorcism is resorted to in case of sickness. These practices are gradually disappearing, but they die hard, and amulets containing a text from the Korān are commonly worn, even by the Mullās who inveigh against these survivals of Hindu beliefs.

Apart from Hindu superstitions, there are certain forms of worship common among Muhammadans which are not based on the Korān. The most common of these is the adoration of departed Pīrs. When a holy man departs from this life, he is popularly believed to be still present in spirit, and his tomb becomes a place of pilgrimage to which persons resort for the cure of disease or the exorcism of evil spirits, or to obtain the fulfilment of some cherished wish. The educated stoutly deny that Pīrs are worshipped, and say that they are merely asked to intercede with God, but among the lower classes it is very doubtful if this distinction is recognized. Closely allied to the adoration of Pīrs is the homage paid to certain mythical persons, among whom Khwāja Khizr stands pre-eminent. This personage appears to have been a pre-Islāmic hero of the Arabs, and he is believed at the present day to reside in the seas and rivers of India and to protect mariners from shipwreck.

These unorthodox beliefs are violently inveighed against by numerous reformers, most of whom owe their inspiration to Ibn Abdul Wahhāb of Nejd in Arabia, who, early in the eighteenth century, founded the sect called Wahhābi. He rejected the glosses of the Imāms, denied the superiority of the Ottoman Sultān, made comparatively light of the authority of Muhammad, and insisted on the necessity for waging war against all infidels. His followers in India at the present day do not accept all his views, and many now hold that India is not a country in which war against the infidels is lawful. But they are all united in their opposition to non-Islāmic superstitions, and in many places they seem to have succeeded to a great extent in eradicating them.

In Eastern Bengal the Wahhābi movement met with considerable success during the nineteenth century. The principal local reformers were Dudhu Miān and Karāmat Alī. The adherents of both are known as Farāzis, or followers of the law; but there is a considerable difference

between them, the latter being pure revivalists, while the former subscribe to the extreme views of the original Wahhābis regarding infidels.

The aggregate Christian population in 1901 was 278,366, compared with 192,484 in 1891. Of the total number, 27,489, or 9·9 per cent., belong to European and allied races; 23,114, or 8·3 per cent., are Eurasians; and 227,763, or 81·8 per cent., are native converts or their descendants. About nine-tenths of the Europeans are of British nationality. The great increase of the Christian population during the decade is due to new conversions, especially in Chotā Nāgpur, and more particularly in Rānchī, where the German Lutheran missionaries have met with great success. This District now contains 124,958 Christians, against 75,693 only ten years ago. Some other Districts in the Province which show a noteworthy increase in the number of Christians are noted below:—

Number of Christians in	Calcutta.	Santāl Parganas.	Darjeeling.	Jalpaiguri*.	Burdwān.	Mānbhūm.	Mymensingh*.
1891 . .	28,997	5,943	1,502	357	1,408	1,532	211
1901 . .	37,925	9,875	4,467	2,486	2,960	2,910	1,291

The return of sects shows that 165,528 are Protestants and 108,194 Roman Catholics; the balance consists of persons who failed to specify their sect, and Armenians, &c. Of the Protestants, 61,024 belong to the Anglican communion, 69,580 are Lutherans, 21,621 Baptists, and 6,691 Presbyterians. The remainder belong to various miscellaneous sects.

The great centre of Roman Catholic missionary enterprise in this Province is Rānchī, where three-fifths of the total number of converts are found. The next largest community of Roman Catholic native Christians is in Dacca*, where they exceed 10,000 (partly descended from Portuguese settlers in the seventeenth century); the number is also considerable in Calcutta, the Twenty-four Parganas, Nadiā, and Champāran. The mission in the last-mentioned District is the oldest of all, dating from 1740.

Of the Protestant missions the best known and most successful is that in Rānchī, which was started in 1845 by six German missionaries, under the name of Gossner's Mission. An unfortunate disagreement took place twenty-three years later, and the mission was split up into two sections, the one enrolling itself under the Society for the Propagation of the Gospel, and the other retaining the original designation. The first mission of the Church of England was started in Burdwān in 1816; but the success here has not been so great as that of the offshoot of Gossner's Mission in Rānchī, which has already been mentioned, nor as that in the adjoining District of Nadiā, which was founded by the

Church Missionary Society in 1831, and now claims nearly 6,000 native Christians. Among other missions of the Church of England, those in the Twenty-four Parganas, Calcutta, and the Santāl Parganas are the most successful. The Baptists have their head-quarters in the swamps of Backergunge* and Farīdpur*, where they have been working among the Chandāls since 1824. The number of their converts now exceeds 7,000. The Cuttack mission, founded in 1822, claims 2,000 converts. The missionaries of the Church of Scotland have been at work since 1870 in Darjeeling and Jalpaigurī* Districts with a fair measure of success.

So far as the Anglican Church is concerned, the whole of Bengal, with the exception of Chotā Nāgpur, which is under an Assistant Bishop, lies in the diocese directly administered by the Bishop of Calcutta, the Metropolitan of India. The ecclesiastical jurisdiction of the Roman Catholic Church vests in an Archbishop resident in Calcutta, who has suffragan sees at Krishnagar and Dacca*; but certain small communities of Portuguese origin are under the Portuguese Vicar-General of Bengal.

Of the other religions returned at the Census it will suffice to mention the Buddhists, numbering about a quarter of a million, found mainly on the confines of Burma and Nepāl; the Jains (7,831), who are chiefly immigrant traders; and the Brahmos or Hindu Theists (3,171).

Religion.	1881.	1891.	1901.
Hindu	43,267,460	45,217,831	46,737,543
Animist	1,668,266	2,294,506	2,242,770
Musalmān	21,492,766	23,437,352	25,265,342
Christian	127,412	190,829	275,125
Buddhist	155,269	189,122	210,628
Others	39,321	17,321	13,458

NOTE.—The figures are for British Districts only, and the details for 1881 and 1891 are the adjusted figures on the area of 1901.

The most striking feature of the return of occupation is the very large proportion of persons who are dependent on agriculture. Nearly two-thirds of the population are either landlords or tenants; 6 per cent. have been returned as agricultural labourers; and of the 7 per cent. shown as general labourers the great majority must also be mainly dependent on agriculture. About 12 per cent. of the total population (including dependents) are engaged in the preparation and supply of material substances; and of these half find a livelihood by the provision of food and drink, and a fifth by making and dealing in textile fabrics and dress. Domestic and sanitary services provide employment for very few, the number of persons who support themselves in this way being barely 2 per cent. of the population, or less than a third of the proportion so employed in England and Wales. Commerce, transport,

and storage provide employment for 2 persons in every 100, of whom rather more than half are engaged on transport and storage, and slightly less than half on commerce. Professions, including the priesthood, are the means of subsistence of less than 2 persons per 100.

In East Bengal the cultivator takes as a rule three meals a day. He begins in the early morning with rice left over from the previous night's supper, parched or popped rice, and jack-fruit or mango when in season. The midday and evening meals have boiled rice as their foundation, and with it are mixed pulses of different kinds, fish, or vegetables. Muhammadans eat meat when they can afford it. Among the poorer classes in Bihār conditions are very different. The principal meal is taken at nightfall and consists of some coarse grain, such as maize or a millet, boiled into a porridge. A lighter meal of the same diet is taken at midday, but only the well-to-do enjoy two full meals a day. In Orissa rice again forms the staple diet, but the cultivator is content with a full meal in the evening of rice boiled with a little salt, some pulse or vegetables, and perhaps fish; in the morning he eats cold the remains of the evening meal. In Chotā Nāgpur a cold meal is taken at noon, and a hot supper in the evening; the food consists sometimes of rice or maize, but more commonly of a millet such as *maruā* (*Eleusine coracana*) or *gondli* (*Panicum miliare*), pulses, oil, vegetables, &c. These are eked out with jungle fruits and roots, and especially with the blossoms of the *mahuā* tree (*Bassia latifolia*) when in season.

The garments commonly worn by men are the *dhotī* or waist cloth and the *chādar* or loose cloth worn over the shoulders; those who can afford it wear a *pirān* or coat. Among the strict Farāzi Muhammadans of Eastern Bengal, the *dhotī* is worn as a *lungī* or kilt, and is frequently of coloured cloth. Muhammadans wear a skull-cap, and Hindus a *pagrī*. In Bihār the poorer classes wear only the *dhotī*, and the *pagrī* is reserved for special occasions. For women the *sārī* is almost universal, one end being worn over the head and shoulders and fastened to the waist-piece; a bodice is added by those who can afford it, and is commonly worn even by women of the poorest class in North Bihār. In the towns the men wear an English shirt over the *dhotī*, the tails hanging loose, and a *chādar* over the shoulders; English socks, loose slippers or shoes, and an umbrella complete the costume. In the fields the agriculturist is content with an exiguous rag round his loins, and in Eastern Bengal a large wicker shield, and in Orissa a wicker hat, protects him from the weather. Girls up to the age of three and boys up to five years generally go naked. All but the very poorest women wear ornaments on wrist, neck, and ankle; these are generally of silver, brass, or lac.

The houses in Lower Bengal are not congregated into villages, but

each homestead stands in its own orchard of fruit and palm trees. The sites have been laboriously raised by excavation, which has left tanks in every compound; and the houses are erected on mud plinths and built round a courtyard with wooden or bamboo posts and interlaced walls of split bamboo, with thatched roofs resting on a bamboo framework. The whole is encircled with a bamboo fence, and sometimes by a moat and a thorny cane or cactus hedge. In Bihār the compounds are smaller, and where the fields are low the houses cluster thickly on the raised village sites; the walls are of mud and the roof tiled or thatched. In the uplands of Bihār, and in Chotā Nāgpur and Orissa, the homesteads are separate, though they generally adjoin one another; each house is surrounded by a well-manured patch of castor, tobacco, or some other valuable crop.

The Hindus bury small children who die during the first year after birth; all others are nominally burnt, but where fuel is scarce the cremation is often far from complete, and sometimes consists only of putting a few lighted sticks in the mouth and on the face, after which the corpse is thrown into the nearest river. In tracts near the Ganges it is the practice to carry dead bodies to burning *ghāts* on its banks, and in all parts it is considered right that the ashes and main bones should be thrown into the sacred stream. The Muhammadans bury their dead, and so do the Jugis of Eastern Bengal and various sects of ascetics, and also the low castes and most aboriginal tribes. The Jugis place the corpse in a sitting position, with the legs crossed in the conventional attitude of Buddha, and the face turned towards the north-east.

The chief amusement of the people lies in attending the fairs which are held all over the Province. These gatherings are at stated seasons, generally in connexion with some bathing festival or other religious ceremony, and are attended by numerous hawkers, who set up booths for the sale of miscellaneous articles, by religious mendicants, jugglers, conjurers, actors, and musicians, all of whom contribute their quota to the entertainment of the crowd. Every market is thronged by gaily dressed crowds, who exchange the gossip of the day and discuss the latest *cause célèbre* while making their weekly purchases. The great annual religious festivals afford an excuse for merry gatherings, especially at the New Year in April, when numbers congregate in the fields and amuse themselves with wrestling, hook-swinging, which now takes the form of a merry-go-round, and gossip. Every one goes mad with merriment at the Holī festival, and many Musalmāns enjoy the fun as much as the Hindus. Their own religious festivals are attended by devout worshippers; they are very fond of religious discussions, and immense crowds gather when famous Maulvis are pitted against each other to argue some knotty point of law or practice. Football is by far

the most popular outdoor game, and huge crowds assemble on the Calcutta *maidān* to watch games under Association rules, at which Bengali boys are remarkably proficient. Among the aboriginal tribes hunting, cock-fighting, bull-baiting, drinking bouts, and saturnalian dancing are the chief amusements.

Hindu names are threefold. The third name is a family or caste title, such as, among others, Mukhopādhyāya (contracted to Mukharji) or Achārjya in the case of a Brāhman, Dās for a Kāyasth, Singh for a Rājput. The first two names are appellative, and the middle name is often dropped in actual intercourse. In Bihār there is generally no middle name. Common affixes denoting a town are *-ābād*, *-pur*, and *-nagar*; *-garh* means a fort, *-ganj* a market, *-gaon* or *-grām* a village, and *-bāgh* a garden: e.g. Murshidābād, Chāndpur, Krishnagar, Rohtāsgarh, Sirājganj, Bangaon, Kurigrām, Hazāribāgh.

Agriculture.

The general characteristics which distinguish agricultural conditions in Bengal are a regular and copious rainfall, a fertile soil, and a dense population subsisting on the produce of the land; but within the Province conditions are by no means uniform, and the important factors of soil, surface, and rainfall vary widely in different localities. The soils may be classed as either gneissic, old alluvium, or recent alluvium, the first two classes being found for the most part to the west, and the last to the east, of the 88th degree of longitude, which passes a few miles west of Calcutta and Darjeeling. The gneissic tract comprises the Chotā Nāgpur plateau and portions of the neighbouring Districts. Laterite soils are to be found sloping upwards towards the interior from beneath the old alluvium of Orissa and of West Bengal, and overlying part of the Chotā Nāgpur plateau. For agricultural purposes the whole of this western tract, comprising the sub-province of Bihār with the exception of Mālda District*, the Chotā Nāgpur Division, and the Burdwān Division with the exception of Hooghly and Howrah Districts, may be distinguished from the eastern tract of recent alluvium which includes the excepted Districts, the Rājshāhi*, Presidency, and Dacca* Divisions, the greater part of the Chittagong Division*, and the coast-line of Orissa. The gneissic, laterite, and old alluvial soils are alike mainly dependent upon artificial manures to maintain their fertility, whereas the recent alluvium is periodically fertilized by fresh deposits of silt from the overflowing rivers. The latter process is most active in Eastern Bengal, in the deltas of the Ganges and the Brahmaputra, whose waters possess the fertilizing properties of the Nile.

The conformation of the surface in the old and the new alluvium is widely different, the former being in process of denudation and the latter of formation. In the tract covered by new alluvium the periodical deposits of river silt maintain a perfectly level surface, which is eminently

adapted for rice cultivation. The surface of the old alluvium, on the other hand, is broken by the scouring action of the rivers and of surface drainage, and the level of the country rises and falls in parallel waves at right angles to the watershed, the crest of each wave lying midway between two rivers. In order to make this undulating surface fit for rice cultivation, an elaborate system of small terraces and low embankments has to be constructed to hold up the rain-water. Where the gradient is steep, the expense of this terracing is prohibitive, and on such slopes rice is generally replaced by some less thirsty crop.

There are of course local exceptions to this broad classification of soils and surface conditions. In North Bihār, for instance, there are numerous saucer-shaped depressions, sometimes of considerable extent, in which rice thrives. The soil in these depressions is generally a strong clay, with a much smaller admixture of sand than is found in the higher uplands which mark the deposits of some ancient river. Again, in the broad belt of hilly country which surrounds the Chotā Nāgpur plateau, rice can be grown only in the valleys. The hill slopes are steep, and are covered with forest and dense undergrowth, except where they have been artificially cleared. Scanty crops of millets and pulses are raised in patches on the hill-sides; and where the forest has been recently cleared, the primitive form of nomadic culture known as *jhūm* is practised, as it is also in the Chittagong Hill Tracts*.

The distinction between the east and west of the Province, due to the difference in soils and surface, is accentuated by the unequal distribution of rainfall, which is generally far less regular and copious in the west than in the east. The annual fall in the western tract averages only 52 inches, as compared with 73 inches in the east. Rain commences much earlier in North and East Bengal than it does farther west, and heavy showers in April and May facilitate the cultivation of jute and early rice. Moreover, the average yearly humidity in the east, including Orissa, is 86 per cent., as compared with only 74 per cent. in the west of the Province.

Not only do the eastern Districts receive a great deal more rain, but, owing to the annual overflow of the great rivers that traverse them, they remain practically under water for six months in the year, and the people live on little island mounds and can move about only by boat. The surface of this tract is low and flat, and much of it is covered with huge marshes where rice and jute luxuriate. In fact, in the east of the Province rice and jute are grown almost exclusively, the former occupying two-thirds, and both together no less than three-fourths, of the gross cropped area.

In the west all this is changed. Rice is still the principal crop, but the rainfall is often insufficient to bring it to maturity, and has to be supplemented by artificial irrigation; fortunately the broken surface

admits of water storage, and there are numerous small streams which can be dammed. The products are far more varied; there is very little jute, and rice accounts for only half the cultivated area, the other crops most extensively grown being maize, barley, wheat, oilseeds, *maruā* (*Eleusine coracana*), and gram. The most striking contrast to the monotony of cropping in East Bengal is furnished by West Bihār, where an astonishing variety of staples is raised, and where it is by no means unusual to find four crops, such as gram, wheat, sesamum, and linseed, grown together in the same field.

Reference has already been made to the nomadic form of cultivation locally known as *jhūm*. A piece of forest land, generally on a hill-side, is selected in April; the luxuriant undergrowth of shrubs and creepers is cleared away, and the felled jungle is left to dry till May and is then burnt. At the approach of the rains, small holes are made, and into each is put a handful of mixed seeds, usually cotton, rice, melons, pumpkins, maize, and yams. The crops ripen in succession, the harvest ending with the cotton in October. After a year or two the ground becomes choked with weeds and is abandoned for a new clearance, where the same process is repeated.

In the Darjeeling Himālayas steep mountain slopes are terraced and revetted with stone for rice cultivation, wherever water is available for irrigation; elsewhere the mountain-sides are sown with maize or millets. In the Rājmahāl hills the level crests are cultivated with the ordinary plains crops, and it is not uncommon in these parts to find rice flourishing on a hill-top.

More than 56 millions, or 71 per cent. of the entire population of Bengal, are supported by agriculture; and of every 100 agriculturists 89 are rent-paying tenants, 9 are agricultural labourers, and 2 live on their rents. The proportion of field-labourers varies widely in different parts, being as high as 16 per cent. of the agricultural population in the Patna Division, and as low as 2 per cent. in the Dacca Division*. The agriculturists are far better off in the east of the Province than in the west. Not only are their profits much higher, especially from the very lucrative jute crop, but they enjoy a far larger measure of rights in the soil.

No record is maintained in Bengal of the cropping of each field from year to year, and accurate statistics of agriculture are not available. The District officers furnish periodical estimates to the Agricultural department of the areas in each District under each of the more important crops, and it is upon these estimates that the agricultural statistics of the Province are based. These are not sufficiently accurate to form the basis of a reliable comparison between the results of successive years, except in the case of such crops as jute and indigo, to which special attention is devoted. Such as they are, they apply to the whole of British territory, excluding the Chittagong Hill Tracts*

and the Sundarbans. They show that of the total area[1] of 146,132 square miles, 76,454 square miles, or 52·5 per cent., were cropped in 1903–4. Of the remainder, 4,372 square miles, or 3 per cent. of the whole, were covered with forests, 35,263 square miles (24·1 per cent.) were not available for cultivation, 19,470 square miles, or 13·3 per cent., were cultivable waste other than fallow, and 10,573 square miles (7·2 per cent.) were fallow. An area of 16,925 square miles, or 22 per cent. of the cultivated area, was returned as cropped more than once in the year.

Food-crops occupy 82 per cent. of the gross cropped area; 6 per cent. is under oilseeds, 4½ per cent. under fibres, and sugar-cane and tobacco each occupy about 1 per cent. Of the food-crops, rice is by far the most important, as it occupies 54,690 square miles, or 71 per cent. of the net cropped area. Next come various cereals and pulses with 11½ per cent., and these are followed by maize (4 per cent.), wheat and barley (3 per cent. each), and gram and *maruā* (2 per cent. each). Among the non-food-crops, jute (5 per cent.) occupies an area second only to that of rice. Of the oilseeds, rape and mustard, together covering 3,125 square miles, are grown most extensively.

There are innumerable varieties of rice, each possessing special characteristics which adapt its cultivation to particular localities. They may all, however, be classified, according to the harvesting season, under three main heads: the winter rice, occupying 42,970 square miles; the early rice, 10,940 square miles; and the spring crop, 780 square miles.

The winter rice is grown on low land. A piece of high ground is usually selected for a seed nursery, ploughed in May or June after the first rain, and sown broadcast. In July or August the seedlings are transplanted to flooded fields, which have been ploughed and re-ploughed till the whole surface is reduced to mud, and the crop is harvested between November and January. In the swamps of Eastern Bengal, however, a variety of long-stemmed rice is sown broadcast after one or two ploughings; by harvest-time the fields are several feet under water, and the rice, which rises with the flood-level, is reaped from boats, the ears only being cut. In West Bihār the fields are drained in September when the rice is flowering, and flooded when the grain is forming in October. It is this practice, known as *nigarh*, which makes

[1] In Bengal as now constituted, the net cropped area was 54,138 square miles, or 49·1 per cent. of the total area of 110,217 square miles. Of the remainder, 4,419 square miles, or 4 per cent. of the whole, were covered with forests, 26,161 square miles (23·7 per cent.) were not available for cultivation, 16,421 square miles (14·9 per cent.) were cultivable waste other than fallow, and 9,078 square miles (8·3 per cent.) were fallow. Altogether 10,369 square miles, or 9·4 per cent. of the net cropped area, were returned as cropped more than once in the year.

rainfall or artificial irrigation in the beginning of October essential to a successful harvest.

The early rice is generally sown broadcast in April or May, though it is occasionally transplanted; the crop is harvested in August or September. Spring rice is grown on the low banks of rivers or on the edges of swamps. The seed is sown in a nursery in October and transplanted a month later; the crop is harvested in March and April. The yield per acre of cleaned rice is estimated at 11·02 cwt. for winter rice and 7·34 cwt. for the early and spring crops. This is the average yield for the Province; in the rich rice swamps of Eastern Bengal the return is at least half as much again, while on the sterile uplands of Chotā Nāgpur not half this estimate is realized. Unhusked rice or paddy yields about three-fifths of its weight as cleaned rice.

Maize occupies 3,125 square miles, mainly in Bihār and Chotā Nāgpur, and in Darjeeling District. It is a valuable food-crop, yielding 7·34 cwt. per acre; it is sown in June and harvested in September or October. Wheat and barley each cover about 2,344 square miles, and both are grown principally in Bihār, barley thriving best north of the Ganges, and wheat south of that river; both are sown in November and reaped in March. The out-turn of wheat is estimated at 8·81 cwt. to the acre for Bihār, 7·71 cwt. for Bengal, and 4·04 cwt. for Chotā Nāgpur, the average for the Province being 5·87 cwt. The normal yield of barley is 7·88 cwt. per acre. Gram (*Cicer arietinum*) is a pulse which thrives on clay soils, and is grown on over 1,560 square miles, principally in Bihār and Central Bengal. It is in the ground from November to March, and yields about 7·88 cwt. to the acre. *Maruā* is a valuable millet which occupies nearly 1,560 square miles in Bihār and Chotā Nāgpur. It is sown in July and reaped in November, and the average yield is 7·34 cwt. per acre. *Jowār* (*Sorghum vulgare*) and *bājra* or spiked millet (*Pennisetum typhoideum*) are grown in Bihār and Chotā Nāgpur; they are sown in July and reaped in November–December, and yield about 7·34 cwt. per acre. *Jowār* is grown as a fodder-crop in Central Bengal.

More than 1,562 square miles, principally in Bihār, are under various cereals and pulses, which are sown in November and reaped in March or April. Among these are the *chīna* millet (*Panicum miliaceum*), peas, lentils, *kalai* (*Phaseolus radiatus*), *kurthī* (*Dolichos biflorus*), and *khesāri* (*Lathyrus sativus*). Some other cereals and pulses are sown in July and reaped in December. These occupy 1,953 square miles, and include *rahar* (*Cajanus indicus*), *gondli* (*Panicum miliare*), *kodon* (*Paspalum scrobiculatum*), a species of *kalai*, and *urd* (*Phaseolus Roxburghii*).

Jute is commercially the most important crop in the Province, and its cultivation is developing rapidly. In 1872 it occupied less than 1,560 square miles, while at the present time the normal area is probably

not far short of 3,900 square miles, and the exports in 1900–1, a bumper year, were valued at 14 millions sterling. The tract in North and East Bengal which lies between 23° and 26° 30′ N. and 88° and 91° E. is by far the largest jute-growing area in the world. The crop is sown in April and reaped in August, and, after retting, the fibre is baled to save freight. The chief centres of the jute trade and baling are NĀRĀYANGANJ*, SIRĀJGANJ*, and CHĀNDPUR*. The average yield per acre is estimated at 10·71 cwt.

The various oilseeds are commercially important, and collectively occupy nearly 6,250 square miles. Rape and mustard account for more than half this area, and are grown extensively in North Bengal and Mymensingh*. Linseed is commonly grown as a catch-crop after the winter rice has been reaped. Other oilseeds are *til* or gingelly (*Sesamum indicum*), castor, and *sarguja* or niger-seed (*Guizotia abyssinica*), the latter grown largely in Chotā Nāgpur. These are mostly spring crops, sown in October and harvested in March. Rape, mustard, and linseed yield about 4·41 cwt. per acre, and the other crops about 3·12 cwt.

Sugar-cane, with 1,020 square miles, is usually planted in February or March and occupies the ground for ten or eleven months; the normal out-turn is 22 cwt. per acre. The juice is boiled and sold as *gur* or jaggery, and is also refined into sugar; large refineries have recently been started at Ottur in Muzaffarpur, and elsewhere in North-West Bihār, where the cultivation of sugar-cane is to some extent replacing indigo. Tobacco is grown everywhere in small quantities and occupies 780 square miles; it is cultivated on a large scale in Rangpur* and the neighbouring Districts of North Bengal, whence the leaf is exported to Burma and made into cigars. The produce varies from 4·41 to 8·82 cwt. per acre in Bengal, and from 11·75 to 14·69 cwt. in Bihār; it is sown in November and reaped in March.

Indigo occupies 390 square miles, chiefly in North Bihār, though it is still cultivated in Central Bengal; the area is shrinking, as the natural dye suffers from competition with the artificial substitute. Indigo is sown in March, and the leaf is cut in July and again in September; the yield of dye varies from 12 lb. per acre in Bengal to 20 lb. in Bihār. The general practice is for the planter to take a lease of a village, and then arrange with the cultivators to grow indigo, assisting them with seed and cash advances, though in some places the villagers grow it independently and sell it to the factory by weight.

The poppy is grown in West Bihār, and to a small extent in Chotā Nāgpur, and occupies 390 square miles. It is cultivated with the help of Government advances, and the opium is sold at a fixed rate to Government, as will be described in the section on Miscellaneous Revenue. The seed is sown in November, and the crop is collected in March and April; the yield varies from 10 lb. to 18 lb. per acre. Cotton

is little grown; there is none in the plains of Bengal proper, and elsewhere it occupies only about 125 square miles. One crop is sown in July and harvested in November, and another is sown in October and harvested in April. Tea is cultivated on a large scale only in JALPAIGURĪ*, DARJEELING, and CHITTAGONG*; in 1903 there were 422 gardens, with a total area of 210 square miles and an out-turn of 51,000,000 lb. The average yield from mature plants is 367 lb. per acre; but the out-turn varies in different parts, averaging 453 lb. an acre in Jalpaigurī*, 313 lb. in Chittagong*, and 288 lb. or less elsewhere. The value of the crop in 1901 was $1\frac{1}{2}$ crores, and the average price per pound in the same year was $5\frac{1}{4}$ annas, compared with $7\frac{2}{3}$ annas twelve years previously. This disastrous fall in prices is due mainly to over-production; but during the last two or three years there have been very few fresh extensions of tea cultivation, and it may be hoped that better times are in store for this important industry. *Gānja* (*Cannabis sativa*) is a Government monopoly and is grown on 1,100 acres in RĀJSHĀHI DISTRICT*; the yield varies from 10 to 21 cwt. per acre. It is sown in August and harvested in February.

Among non-food-crops grown in the rains are hemp and mulberry, the latter chiefly in MĀLDA*, MURSHIDĀBĀD, RĀJSHĀHI*, and BOGRA*. In the winter are grown condiments, such as chillies (*Capsicum frutescens*) and onions, the safflower dye, and oats, which are generally used for fodder. Turmeric is sown in June and harvested in March, and ginger is sown in June and harvested from December to February. The *pān* creeper (*Piper Betle*) is planted in May or June in a thatched enclosure, and the leaves are ready for picking in twelve months. Among other condiments are garlic, coriander, cumin, and aniseed. Large areas are given up to thatching grasses, such as *ulu* grass (*Imperata arundinacea*) and *kus* (*Saccharum spontaneum*). In the SANTĀL PARGANAS and parts of Chotā Nāgpur *sabai* grass (*Ischaemum angustifolium*) grows on the hilly slopes and is carefully preserved; it is used locally for twine and rope, and it is also extensively employed in the manufacture of paper. Reeds, such as the *hoglā* (*Typha elephantina*), *nal* (*Amphidonax Kaika*), and *sītalpāti* (*Phrynium dichotomum*), are extensively grown and woven into mats.

A strong prejudice exists against night-soil or bonemeal as manure, and chemical manures are practically unknown. Cattle-dung is used wherever it can be spared, but it is largely burned as fuel, and little or no use is made of the urine. The feeding of the cattle is also so poor that their dung is not rich in manurial constituents. House-sweepings are freely utilized, generally in the form of ashes. What little manure is available is mostly applied close to the homesteads for garden crops, and for maize, tobacco, castor, and poppy. Castor and mustard-cake are occasionally used as a top-dressing for sugar-cane and

potatoes. In East Bengal rice straw is sometimes burnt as a manure, and sugar-cane, garden crops, potatoes, and tobacco are generally manured, though the quantity applied is very small. In Bihār refuse indigo is used with avidity where it is available in the neighbourhood of factories, and pond mud is very highly valued.

Clay soils grow winter rice year after year; occasionally a catch-crop of *khesāri* is taken as a fodder, or, if the land continues moist until harvest time, it may be ploughed and sown in East Bengal with *kalai*, and in Bihār with gram and peas or barley. Lighter soils generally bear two crops in the year—in the rainy season, early rice or jute in North and Lower Bengal, and maize or some of the inferior millets in Bihār or Chotā Nāgpur; in the winter a pulse or an oilseed in Bengal, and a mixture of various pulses and oilseeds with wheat or barley in Bihār. Potatoes often follow maize in Bihār, and jute or early rice in North and Lower Bengal, and jute itself is sometimes rotated with early rice. Sugar-cane is an exhausting crop and is generally rotated with rice. The mixture of pulses and cereals serves the purpose of rotation, as the pulses belong to the leguminous family and enrich the soil with nitrogen.

Among the cultivated fruits are the mango (*Mangifera indica*), plantain (*Musa sapientum*), pineapple (*Ananassa sativa*), jack-fruit (*Artocarpus integrifolia*), guava (*Psydium pomiferum*), custard-apple (*Anona squamosa*), *līchī* (*Nephelium Litchi*), and several varieties of fig and melon. Many parts of East Bengal are studded with coco-nut plantations. The mangoes of Darbhangā and Mālda* enjoy a high reputation. Vegetables are everywhere cultivated in garden plots for household use, and also on a larger scale in the neighbourhood of large towns. The favourite are the egg-plant or *baigun* (*Solanum Melongena*), ground-nut (*Trichosanthes dioica*), pumpkin (*Lagenaria vulgaris*), gourd (*Benincasa cerifera*), and *arum* (*Colocasia Antiquorum*) grown in the rains, while in the winter potatoes, yams, melons, and radishes are largely cultivated. Cauliflowers and cabbages are also common, and spinach and onions are universal. Potatoes are extensively grown on the rich soils bordering the Ganges in West Bihār, and in the Hooghly and Burdwān Districts of West Bengal; they yield about 2 tons to the acre.

There has been a steady increase of cultivation during the last twenty years, but the earlier statistics were so defective that they do not afford evidence of this increase. Tillage is extended by felling the forests on upland tracts and in the submontane *tarai*, by reclaiming the sandy islands which are constantly forming in the big rivers, by embanking lands in the littoral tracts, and by cultivating the swamps of Eastern Bengal, the level of which is being gradually raised by silt deposits.

An Agricultural Institute under the Government of India has been opened at PŪSA in Darbhangā District. Experimental farms under the

superintendence of the Agricultural department are established at SIBPUR, BURDWĀN, and DUMRAON, and demonstration farms have recently been started at CHITTAGONG* and ANGUL. Experiments have been made with improved varieties of rice, wheat, sugar-cane, and potatoes, and with manures for these crops; the cultivation of potatoes has been extended, and Burdwān sugar-canes have been introduced into Bihār. Useful work has been done in the direction of stimulating the out-turn of raw silk, by training the rearers to eradicate pebrine and other diseases of the silkworm. An agricultural class is attached to the Sibpur Engineering College, but it has not been successful; it is to be moved to Pūsa. The department has recently extended its sphere of activity in many directions. Special investigations have been made into the alleged deterioration of jute, efforts have been made to extend the cultivation of cotton, aid has been given to indigo research operations, and an experimental farm has been started at Cuttack to show cultivators what can be done with water always at command. Besides this, agricultural associations, working in co-operation with the department, have been established in order to help it with advice, to disseminate agricultural knowledge by communicating the results of its operations to the people, and to awaken further interest in the development of the agriculture of the Province. A Central Association has been formed at Calcutta, and Divisional and District Associations are being formed in the interior, which will work in concert with this central body.

Loans are rarely taken from Government, and in 1903–4 the total sum amounted to only 3·6 lakhs, of which nearly half was advanced in Palāmau District. It is too early to pronounce an opinion on the prospects of the Agricultural banks which have recently been started; but 58 banks are now in existence, and some of them seem to be working successfully.

Little attention has been directed in Bengal to the subject of the indebtedness of the cultivators, and in the Province generally the question has never reached an acute stage. In a great part of Bengal proper a system akin to peasant proprietorship prevails, and the rich profits of jute cultivation are shared by all the cultivating classes. In Bihār and Chotā Nāgpur the peasantry are as a class impoverished, but there is little evidence to show the extent of their indebtedness. In Chotā Nāgpur and the Santāl Parganas, the Bengali money-lender at one time threatened to oust the improvident aborigines from their lands; but land transfer to Bengalis has now been prohibited, and the prohibition is strictly enforced at the time of rent settlement. In various parts of the Province a survey and record-of-rights are in progress, which aim at securing to the ryots the fixity of status and the immunity from arbitrary enhancement which the Tenancy Act prescribes, and the Settlement officers have made careful inquiries as

to the extent of indebtedness in Gayā, Champāran, and Muzaffarpur Districts, where, if anywhere in the Province, it might be expected to be serious. The inquiries in Muzaffarpur and Gayā show that cultivators owe on the average Rs. 2–6 a head and cultivating labourers Rs. 1–5, and that indebtedness is decreasing. In Champāran the tenantry are badly off, and, during the decade preceding the settlement, 1·4 per cent. of the cultivators' holdings had been sold or mortgaged to money-lenders. The people are thriftless, and the majority are in debt to the *mahājan*. In Sāran only one-fifth of the cultivators are in debt, and their total indebtedness is estimated at less than a crore, whereas the net profits of cultivation amount to over 3½ crores. In the whole Province only 7,000 holdings were purchased by money-lenders in 1902, and there is no indication that the peasantry as a body are in danger of losing their lands to money-lenders. A common rate of interest is 36 per cent. per annum.

The implements in universal use are the plough, harrow, sickle, and hoe, and they vary in size and shape according to the strength of the draught cattle in use, the texture of the soil, and the description of cultivation practised. The ploughs in Bihār are generally heavier and more effective than in Bengal, and work the soil to a depth of 5 inches, whereas those in use in North Bengal scratch the surface to a depth of only 2 inches. The Cuttack and Noākhāli* ploughs are very heavy, and the two sides are shaped like mould-boards, giving them the appearance of ridging ploughs. The Bihiyā sugar-cane mill, made in Shāhābād, and a similar type of mill made at Kushtia in Nadiā are the only improved implements which are really popular; they have largely superseded the native wooden mills.

The cattle are generally poor, especially in the east of the Province, where pasture is deficient; in the north-west some improvement has been effected by crossing with bulls imported from the United Provinces. The chief breeds of cattle are the Patna, Sītāmarhi, Bachaur, and Bhāgalpuri in Bihār, and the Siri and Nepāli in Darjeeling. These are worth from Rs. 30 to Rs. 40 a head, though the Patna milch-cattle, which were crossed half a century ago with an imported short-horn strain, sell for Rs. 80. Good buffaloes are to be found in the forests and swampy island flats, and are much prized for their milk. The only horses bred in Bengal are the weedy indigenous ponies or *tats*, which are found everywhere and are worth from Rs. 50 to Rs. 60 each. Goats abound, but are very small. Sheep are bred in Bihār and Chotā Nāgpur; the Patna breed is the best.

Pasture is plentiful in the neighbourhood of the few forests and on the river islands; but it is very scanty elsewhere, especially in Bengal proper, where every inch of land grows rice and the cattle have to be

content with such scanty herbage as the roadsides, tank banks, and field boundary ridges afford. Cart bullocks and plough bullocks are partly stall-fed on chopped rice straw when at work, and milch-buffaloes are carefully tended; but the cattle generally are under-fed and miserably housed, and no attempts are made to improve the breed. In Bihār and elsewhere dedicated bulls roam the countryside and feed on the fat of the land, but they are not selected for breeding. The cattle suffer from rinderpest, foot-and-mouth disease, haemorrhagic septicaemia, and malaria, and occasionally from anthrax. The Civil Veterinary department trains young men at the Bengal Veterinary College at Belgāchia, and distributes them to the District boards and other bodies requiring their services; the total number of passed students from this college who were employed as veterinary assistants or in other capacities under these bodies and under Government in 1903–4 was 46.

A large number of cattle and horse fairs are held, the largest being those at SONPUR, SĪTĀMARHI, SŪRI, and KĀLIMPONG. At these fairs cattle shows are held, and prizes are given for the best specimens exhibited.

The copious and regular rainfall renders irrigation far less essential than in other parts of India, and it is almost unknown in a great part of Bengal proper. Statistics are available only for the areas irrigated from Government canals; and in 1903–4 less than 2 per cent. of the rice crop and only about 2 per cent. of the wheat crop were supplied with water from this source. The principal crops irrigated are winter rice, wheat, barley, poppy, sugar-cane, and potatoes. Of these, winter rice is by far the most important. It is not irrigated in East or North Bengal, and but seldom in the Presidency Division, while in North Bihār it is only irrigated near the foot of the Himālayas, where the hill streams can be dammed without much difficulty. In Orissa there are large irrigation works, but they are not much resorted to in normal years. In the Burdwān and Chotā Nāgpur Divisions, however, and in South Bihār, the natural supply of rain-water is insufficient, and rice can be grown only with the aid of artificial irrigation. This is chiefly necessary in October; but if the rains are late in starting, water is also required for the seed-beds, and again at the time of transplantation. Wheat and barley are commonly grown without irrigation, except in the vicinity of homesteads in North Bihār, where they get two or three waterings from wells in November and December. The poppy is generally irrigated from wells and requires weekly watering. Sugar-cane is irrigated, except in North Bihār and North Bengal; it is watered once a fortnight during April, May, and June, and once a month in November and December. Potatoes are irrigated once a fortnight in Burdwān, Hooghly, Patna, and Cuttack, but not usually elsewhere.

Bengal possesses three important systems of irrigation canals—the SON, the ORISSA, and the MIDNAPORE. The Son Canals in Bihār are fed from the Son river by means of a weir at DEHRĪ; they supply water to Shāhābād District on the west and to Gayā and Patna Districts on the east. The system comprises (1903–4) 367 miles of main and branch canals, of which 218 are navigable, with 1,217 miles of distributaries, and 3,237 miles of village channels which are private property. The supply of water available for the *kharīf* or autumn irrigation is about 6,500 cubic feet per second. For the *rabi* or spring crops the supply is always ample. The demand fluctuates greatly according to the rainfall in September and October; the area irrigated in 1903–4 was 790 square miles, compared with 756 square miles in 1902–3. In the hot season the supply of water is very limited, but there is usually sufficient for the irrigation of about 25,000 acres of sugar-cane.

The Orissa Canals are fed mainly from the Mahānadī river, but derive part of their supply from the Brāhmanī and Baitaranī, there being in all seven anicuts or weirs. The country served by these canals lies chiefly in the delta of the Mahānadī, and, being liable to inundation, it has been necessary to protect the irrigated tracts by marginal flood embankments. Four main canals—the Tāldanda, the Kendrāpāra, the Māchgaon, and the High Level—comprise 301 miles of main and branch canals, of which 205 miles are navigable, and 1,166 miles of distributaries. There are no village channels. The supply which can be given in the *kharīf* season is 4,550 cubic feet per second. During the *rabi* season there is very little demand for water. Sugar-cane is little cultivated in these parts.

The Midnapore Canal is supplied from the Kāsai river. It is 72 miles in length and is navigable throughout, and possesses 267 miles of distributaries and 30 miles of village channels. The capacity of discharge is 1,500 cubic feet per second. The supply at the end of the *kharīf* season is, however, uncertain, and in a dry autumn there is frequently difficulty in meeting the demand for water. There is little irrigation in the *rabi* season.

In the north-west corner of Champāran District the TRIBENĪ CANAL is being constructed as a protective work. It is designed to carry enough water to irrigate about 178 square miles.

Table III at the end of this article (p. 346) gives the principal figures connected with these systems of canals; the falling off in navigation tolls is due to the development of railways.

The 'minor' irrigation works maintained by Government are the Sāran, the EDEN, and the Tiar or Madhuban canals. The Sāran canals have a head sluice on one of the side channels of the Gandak river. There is no weir, and, owing to alterations in the main channel, it is

very difficult to feed the canals, which for the present are closed. The Eden canal takes off from the Dāmodar river in Burdwān. It was intended primarily to supply fresh water to some old river-beds as a sanitary measure, but it is also used for the irrigation of about 42 square miles. The Tiar canal in the north of Champāran is supplied from the stream of the same name, and can irrigate 9 square miles.

The sale of water for irrigation is regulated by Act III (B.C.) of 1876, which provides that it shall only be supplied on a written request. For rice, leases are entered into for a term of years in which the lands to be irrigated are specified in detail; the quantity of water to be given is not mentioned, but there is an implied obligation to supply what is needed. In charging for the irrigation of *rabi* and sugar-cane, it is not practicable to determine beforehand precisely which lands are to be supplied, and the principle of the Northern India Act is adopted, i.e. an acreage rate is charged on those fields which are actually irrigated.

The principal private irrigation works are reservoirs and water channels. This form of irrigation is mainly practised in the gneissic and old alluvial tracts, where the broken surface facilitates water-storage. In hilly country the reservoir is made by throwing an embankment across a drainage channel, but on more level ground the surface-water is confined in an artificial catchment basin, of a more or less rectangular shape, by an embankment raised on three sides of the rectangle. Artificial channels are dug parallel to the beds of rivers which have a steep gradient, to irrigate high lands down stream; many of these are large works with numerous branches and distributaries. Comparatively little use is made of wells for irrigation, though a good deal of land along the banks of the Ganges in Patna and Muzaffarpur Districts is watered from earthen wells, and small masonry wells are to be found near the houses in Bihār, and are used for irrigating poppy and other crops. The cost of a masonry well varies from Rs. 100 to Rs. 300 and of a *kachchā* well from Rs. 2 to Rs. 5. Tanks are used to a considerable extent for irrigating rice, especially in Burdwān.

Numerous water-lifts are used, such as the lever and bucket or skin bag, the swing-basket, and the spoon irrigation lever. The first-mentioned lever is fitted to a forked tree or masonry pillar, and counterpoised by clods of earth. When bullocks are used, they are yoked to a rope which passes over a pulley carried on a cross-beam, supported on two masonry pillars. The basket is swung by two men with the aid of ropes tied to the corners, and is used for raising water from a river or tank. The spoon irrigation lever is a canoe-shaped dug-out working on a pivot. When the level of water is very low, two or more successive lifts are required.

The importance of the Bengal fisheries may be gauged from the fact

that 1·6 per cent. of the population is engaged in catching, curing, and selling fish, a percentage which rises to 2·6 in the Presidency, Rājshāhi* and Dacca* Divisions; moreover, one cultivator in every twenty is returned as a fisherman also. The waters of the Bay, the rivers, and swamps swarm with fish, and every ditch and puddle furnishes small fry to eke out the frugal diet of the people. The best salt-water fish are the *bekti*, *tapsi* or mango-fish, mullet, pomfret, and sole. Inland the *hilsa* (*Clupea ilisha*) is found in shoals in the Ganges, while the *rohu* (*Labeo rohita*) and the *kātāl* (*Catla buchanani*) abound everywhere, as do also innumerable other varieties much esteemed by the Bengalis; prawns and crabs are caught in myriads. The mahseer is found in the higher reaches of the rivers which debouch from the Himālayas, and in some of the rivers of the Chotā Nāgpur plateau.

The Bengali is a very clever fisherman. In the Bay of Bengal he practises deep-sea fishing, drying his catch ashore on stakes driven into some sandy beach. The larger rivers are trawled from a sailing boat, and the smaller streams are fished from weirs. The tanks and ditches are periodically dragged, the fish at other times being angled or caught in a cast-net. Every streamlet is studded with hundreds of wicker fish-traps, while prawn cages are ubiquitous. The wonder is that any living fish escapes, so persistent and remorseless is the hunt for the finny tribe. Every other interest is subordinated to its pursuit, and not only is navigation impeded, but the drainage of the country is blocked by the obstruction of every channel and outlet.

The right of fishery in all but the largest rivers has generally been alienated by Government to private persons, having been included in the 'assets' on which the permanent settlement of estates was based, but in some cases the fishery itself is a separate 'estate.' In tanks the right of fishing vests in the owner or occupant; in the Bay and large rivers fishing is free to all.

Rents, wages, and prices.

The conditions which determine the rent paid by the actual cultivator to his immediate landlord vary widely in different parts of the Province, and even in different estates. In some large estates it is paid according to rates current throughout a village, while in others lump-rents prevail. In Orissa and the Santāl Parganas the rents have been fixed by Settlement officers. In Bengal proper, lump-rents are generally paid, except for newly reclaimed lands, and inquiry often fails to detect the existence of any standard rates known to the people. In large estates in Bihār, on the other hand, it is usual to find the rent calculated according to rates applied to different classes of soil or to particular crops. Generally speaking, the principal factors which affect the incidence of rent are the fertility of the land, the density of population, the antiquity of the holding, the social position of the tenant, and the position and character of

the landlord. Where the population is dense, there is a keen demand for arable land and rents rule high. On the other hand, rents which were fixed some years ago are lower than those recently settled, because prices and rent rates have steadily increased for many years. A Brāhman, again, usually pays a lower rate than a man of low caste. The highest rents prevail where the landlord is a petty proprietor or a middleman resident in the village. Specially high rent rates are usually paid for land under special crops, such as sugar-cane, *pān*, mulberry, and poppy. The cultivators have been protected from arbitrary rent enhancement and eviction by the Bengal Tenancy Act of 1885, but, owing to the apathy and ignorance of the peasantry, the Act has remained a dead letter over a great part of the Province. In Bihār, especially, the tenant is still very much at the mercy of his landlord, who rarely gives him a written lease. In Eastern Bengal conditions are different. Documents are far more freely interchanged, the demand for cultivators to till the land is keen, and the tenant has the best of the bargain.

Little accurate information is available in Bengal regarding rates of rent, but the following are the average rates per acre ascertained by Settlement officers. In Eastern Bengal Rs. 4 is paid in Tippera*, and Rs. 5–12 in Chittagong*, where rents rule very high; the ordinary minimum and maximum rates probably range from Rs. 3 to Rs. 12. In Orissa rents vary from Rs. 1–8 to Rs. 4, the average being Rs. 2–8. In Central Bengal they run from Rs. 3–4 to Rs. 8–11, the average being Rs. 5–8, and in North Bihār the limits are Rs. 1–14 and Rs. 4–5, the average being about Rs. 3–2 an acre. In Chotā Nāgpur the rents are much lower, varying from 8 annas to Rs. 2, with an average of Rs. 1–4, while in the Santāl Parganas the average is Rs. 4–4, the limits being Rs. 3–12 and Rs. 6–12. The rates of rent for special crops occasionally rise much higher, the maximum rates recorded for tobacco being Rs. 37–8; for sugar-cane, Rs. 18; for potato and poppy, Rs. 20; and for *pāṇ*, Rs. 75.

Rent is extensively paid in kind in Gayā, Shāhābād, and Patna Districts, where the character of the country renders the maintenance of an elaborate system of irrigation necessary; but to a less extent such rents are to be found throughout the Province. Different methods of payment prevail; sometimes the grain is divided on the threshing-floor, or the standing crop is appraised, while sometimes a fixed payment in grain is made irrespective of the yield. In Bengal newly reclaimed lands are often tilled by temporary settlers, who contract to raise a crop and give the landlord half of it; they erect temporary shelters for the season, and throw up the land at the end of it.

Wages for all kinds of labour are lowest in Bihār and highest in Bengal, Orissa occupying an intermediate position. The actual daily

rates for skilled and unskilled labour in the different sub-provinces and in the three chief cities are shown below :—

	Sub-provinces.			Cities.		
	Bengal.	Orissa.	Bihār.	Calcutta.	Dacca*.	Patna.
	A. P.	A. P.	A. P.	A. P.	A. P.	A. P.
Skilled labour .	7 10	5 3	4 9	8 11	6 7	3 0
Unskilled do. .	4 1	2 9	2 6	...	3 4	2 0

In Bihār there has been a nominal rise of 7 per cent. in the wages of unskilled labour during the last decade, and in Bengal of 14 per cent.; in Orissa, on the other hand, wages are reported to have fallen 12 per cent. during the same period. In Patna city they have increased 9 per cent., while a decrease of 2 per cent. has taken place in Dacca*. The wages of skilled labour have increased by 11 per cent. in Bihār, 15 per cent. in Orissa, and 5 per cent. in Bengal; they have increased in Calcutta by 20 per cent., while in Patna and Dacca* they are reported to have fallen by 5 and 13 per cent. respectively.

The remuneration of village servants is fixed by custom. In Bihār each artisan takes his recognized share of grain when the crop has been reaped and brought to the threshing-floor; he often holds in addition a small plot of land rent-free, in remuneration for services rendered to the *zamīndār*. In Orissa the village employés serve a fixed circle of from 30 to 50 families and receive small monthly payments of grain and money, with other customary perquisites. This system is not found in Bengal proper, where the village organization, with its complete equipment of servants and artisans, never seems to have been developed.

The rise in wages has not kept pace with the increase in the price of food-grains, for, whereas during the last twenty years the price of rice has risen by 38·5 per cent., the wages of unskilled labour have risen by only 15 and of skilled labour by 25·4 per cent. during the same period. The fact is that wages are largely governed by custom, and it seems probable that the increased demand for labour due to the development of railways and to industrial expansion has had more to do with the rise in wages than the increase in the price of food-grains. The payment of day-labourers and village artisans and servants in kind also tends to keep down wages in spite of high prices.

The average prices of certain staples at important centres during the last three decades and for the year 1903–4 are shown in Table IV at the end of this article (p. 347). The increase during the years 1890–1900 was due to the famines of the decades, which caused a heavy drain of food-stuffs from this Province.

The masses are much better off and enjoy a more generous diet in Lower Bengal and Orissa than in Bihār and Chotā Nāgpur. The annual cost of living per head of an average adult cultivator is estimated at Rs. 15 in Bihār, Rs. 20 in Chotā Nāgpur, and Rs. 35 to Rs. 45 in Lower Bengal and Orissa. An ordinary hut costs from Rs. 5 to Rs. 40, and a well-to-do family has three or four of them. The furniture consists of mats, one or two wooden boxes, bamboo baskets, earthen pots and pans, and brass utensils. To dress himself and his family costs a well-to-do cultivator from Rs. 10 to Rs. 15 per annum, while he may spend Rs. 5 or Rs. 10 in brass and silver ornaments. The landless day-labourer is generally attached to the household of his master, and lives in a wretched hut on his employer's land. He gets one full meal at midday and a scanty breakfast and supper.

The middle classes comprise those who live on land rents, members of the learned professions, merchants and shopkeepers, and persons in Government or private employment. The joint family system which furnishes a common fund for all the members is a relief to those earning small salaries. Their food consists of rice, pulses, vegetables, fish, *ghī*, oil, milk, sugar, flour, and sweetmeats, and occasionally meat. The ornaments of a married woman of this class are usually not worth more than Rs. 50. One or two bedsteads, a few cane or wooden stools, a few cheap boxes, some coarse mats, together with a number of brass and bell-metal utensils, make up the furniture of an ordinary house, except in the towns, where it may include a table, a couple of chairs, and one or two benches. The cost of living in Calcutta is estimated at Rs. 50 to Rs. 70 a month for an ordinary family, and in the country at from Rs. 30 to Rs. 50.

There is no doubt that the standard of living has improved of late years in North and East Bengal, where better clothes are worn, earthenware is giving place to brass-ware, and vegetable oils to kerosene. In Bihār progress is slower, though the improvement in communications has facilitated migration to Bengal, where the remarkable industrial expansion of recent years has created a great demand for labour. The same causes have benefited Chotā Nāgpur, but here the people are primitive in their habits, and they have not yet taken to growing produce for export on a large scale; the Bengal-Nāgpur Railway has, however, done much to open up this part of the country. The middle classes suffer from high prices, unless they have an interest in land, as many of them have; and this is probably the class which has made least progress.

Forests.

The history of the Government forests in Bengal is similar to that of the forests in other parts of India. When the East India Company first began to acquire sovereign rights, its officers were naturally impressed by the great extent of the

forests, rather than by the benefits to be derived from them; and for many years their sole aim was to expedite their conversion into cultivated fields. Many of the best forests were alienated, and reckless exploitation ran riot. The work of destruction was hastened by the wasteful form of shifting cultivation known as *jhūm*, the constant occurrence of forest fires, and the direct and indirect demands for railway construction. But with the growing scarcity of valuable timber, and the observed bad effects upon climatic conditions of the wholesale removal of forest growth, a reaction set in; and scientific forest management and conservancy in Bengal dates from the year 1854, when the first Conservator of Forests was appointed. As in other Provinces, rules were then laid down for the control of forest matters, which eventually led up to the passing of the Indian Forest Act, VII of 1878.

Under this enactment land at the disposal of the state may be divided into 'reserved,' 'protected,' and 'village' and 'unclassed' forests, and powers are also taken for the issue of orders with the object of preventing the destruction of private forests. No such orders have hitherto been issued in Bengal, and there are no 'village' forests. The arrangements for conservancy are most complete in the case of 'reserved' forests. These are permanently demarcated; private rights, where they exist, are defined, commuted, or provided for elsewhere, and every effort is made to prevent damage by fire. Timber is extracted from the greater part of these forests in accordance with scientific working-plans, and the regeneration of suitable species is carefully attended to. In 'protected' forests the arrangements are less elaborate: private rights are recorded but not defined, and the efforts of the Forest department are directed mainly to the prevention of reckless felling and to securing to Government its dues on account of forest produce extracted. As cultivation extends, the area of these 'protected' forests tends to become more and more restricted. There are also, in the Chittagong Hill Tracts*, certain waste lands at the disposal of Government, in which even this modified control is considered inadvisable. The forests on such lands are known as 'unclassed,' and their management is regulated by executive orders.

In consequence of the permanent revenue settlement, there is very little land at the disposal of Government in the greater part of Bengal proper and Bihār, and the forests there have long since yielded to the axe and the plough. Owing to the moisture-laden winds of the south-west monsoon, and the generally low and level surface of the country, which prevents rapid draining and denudation, their disappearance has not been accompanied by the ill effects which have supervened in other less favourable conditions. Except in a few limited areas, vegetation is sufficiently plentiful; and the bamboos, palms, and fruit trees grown by the villagers suffice to meet all their ordinary requirements. For other

purposes, however, such as sleepers for railways, timber for bridges and large buildings, tea boxes, and to meet the fuel demand in cities, the only important sources of supply, with the exception of the forests in a few Native States and the timber imported from Nepāl or from abroad, are the Government forests which have been 'reserved' or 'protected' in the tracts lying outside the area which was permanently settled: namely, in Chotā Nāgpur, the Santāl Parganas, the Jalpaigurī Duārs*, Darjeeling, Chittagong*, Angul, and Purī Districts, the Chittagong Hill Tracts*, and the Sundarbans. The Government forests in these tracts[1] in 1904 covered an area of 9,581 square miles, of which 6,014 square miles were 'reserved,' and 3,567 'protected,' while there were also 3,753 square miles of 'unclassed' forests in the Chittagong Hill Tracts*. With a few exceptions, the whole of this area is under the control of the Forest department of the Province. At the head is a Conservator of Forests, and under him are deputy, assistant, and extra-assistant Conservators, who are in charge of or attached to Forest 'divisions' (twelve in number), and a subordinate staff of rangers, deputy-rangers, and foresters. In matters of general Forest administration, the divisional officer is the assistant of the Collector of the District, or in some cases of the Commissioner, while as regards technical matters, accounts, establishments, and the like, he is directly under the Conservator.

The forests of Bengal contain a great number of species, and their composition is very varied in character. The principal types are briefly: (*a*) The tidal forests situated in the delta of the Ganges, known as the Sundarbans, where the *sundri* (*Heritiera littoralis*) is the most important species; (*b*) the dry forests of Chotā Nāgpur and the Santāl Parganas, where the *sāl* tree (*Shorea robusta*) largely predominates; (*c*) the forests in the hilly portions of Orissa, where the *sāl* occurs sometimes in pure forests, but usually in conjunction with several species of *Terminalia*, *Diospyros*, *Albizzia*, *Dalbergia*, and bamboo; (*d*) *sāl* forests in the Duārs* and *tarai* at the foot of the Eastern Himālayas and on the drier spurs of the lower hills, and those of *Dalbergia Sissoo* and *khair* (*Acacia Catechu*) on the gravel and boulder deposits along the rivers of that part of the country; (*e*) the hill forests of British Sikkim and Bhutān, stocked chiefly with oaks, magnolias, and rhododendrons; and lastly (*f*) the Chittagong* forests, of which bamboos, *jārul* (*Lagerstroemia Flos Reginae*) and *gurjan* (*Dipterocarpus turbinatus*) are the most important products.

Timber and other forest produce are, for the most part, now removed

[1] The Jalpaigurī Duārs, Chittagong, and the Chittagong Hill Tracts have been transferred to Eastern Bengal and Assam. The Government forests in the present area of Bengal cover 7,806 square miles, of which 4,244 square miles are 'reserved,' and 3,562 square miles are 'protected.'

by purchasers, and departmental working is resorted to only for the supply of *sāl* sleepers to railways, and of fuel to the Commissariat department at Darjeeling. Water-carriage is little used save in the forests of Angul, the Sundarbans, and the Chittagong Hill Tracts*, and to some extent in the Jalpaigurī* and Buxa* forests. The practice of shifting cultivation, which is most injurious not only on account of the destruction of forest growth, but also because the fires employed for clearing the felled areas often spread in all directions, is now almost everywhere forbidden, though it is still allowed in the 'unclassed' forests of the Chittagong Hill Tracts* and in the 'protected' forests in the Santāl Parganas. The most valuable minor products of the forests are bamboos, *golpātā* (palm) leaves, mica, honey and wax, thatching grass and *sabai* grass (*Ischaemum angustifolium*), the last named being largely used in the manufacture of paper.

The experiment of cultivating rubber (*Ficus elastica*) has been tried in the Darjeeling *tarai*, the Tīsta valley, and Chittagong* with some success, but the plantations are still on a very small scale.

Measures for protecting the forests from fire were commenced in 1872, and have now been extended to all the more valuable areas. At the beginning of the dry season fire-lines, as well as all boundaries and forest roads, are cleared of grass and jungle, and a number of fire-watchers are employed to assist the ordinary protective establishment in patrolling the forests. In many parts, e.g. in the Sundarbans, the forests are not inflammable, and in others, owing to the damp climate, fire-protection is an easy matter. It is in the dry climate of Chotā Nāgpur and Orissa that forest fires are most to be feared, and the greatest care has to be taken; but, in spite of all precautions, large areas in these portions of the Province are frequently burnt. Of the total area of 2,169 square miles in 1903-4, over which protection from fire was attempted, 94·98 per cent. was successfully protected at a cost of Rs. 7-8-7 per square mile.

With the exception of a small area in Jalpaigurī District*, there are no special fuel and fodder Reserves. In the temporarily settled estates of Orissa, however, lands have been set apart in many villages, during the recent settlement operations, for grazing purposes, while in the Government estates of the Kolhān and Palāmau and in some recently settled tracts in Singhbhūm District blocks of waste land have been detached from the 'protected' forest areas and included in the limits of villages, to meet the possible requirements of the villagers in respect of fuel-supply and pasture grounds. In the case of famine or fodder scarcity, the 'reserved' forests in the affected area are thrown open for the free removal of fruits and roots, and in some cases for grazing.

During the ten years ending 1890, the forest revenue, expenditure, and surplus averaged, respectively, 6·51, 3·86, and 2·65 lakhs; and for

the ten years ending 1900, 9·45, 4·86, and 4·59 lakhs. In 1900–1 the gross revenue was 12·34 lakhs, the expenditure 5·78 lakhs, and the net surplus 6·56 lakhs; and in 1903–4 the gross revenue[1] was 10·47 lakhs, the expenditure 6·89 lakhs, and the net surplus 3·58 lakhs.

Mines and minerals.

Coal is the chief mining industry. The Bengal mines furnish more than 83 per cent. of the total output of coal in India, and nearly the whole of the coke. With the exception of a narrow unworked field of crushed anthracitic coal of Gondwāna (upper palaeozoic) age in Darjeeling District near the Nepāl frontier, the coal seams lie mainly in the valleys of two rivers, the Barākar and the Dāmodar. The principal fields at present worked are at GĪRĪDĪH, or Karharbāri, in the valley of the Barākar, and at JHERRIĀ and RĀNĪGANJ in the valley of the Dāmodar. These fields are estimated to be capable of yielding 14,000,000,000 tons of coal, excluding 67,000,000 tons already extracted. They all lie within 200 miles of Calcutta and have been made accessible by rail. The Rājmahāl fields give a small output, and Daltonganj, which has recently been connected by rail with Barun, is being developed. Of the unworked fields, Karanpurā with nearly 9,000,000,000 tons of coal is perhaps the most important. The Aurangā, Bokāro, Hutar, and Rāmgarh fields are also of value, but they have not yet been opened out by the construction of railways. These fields contain fair steam coals; some are very good, but they all contain a rather high percentage of ash. Many of them yield a good firm coke suitable for furnaces.

The maximum thickness of the seams is 95 feet, and the portions worked vary in thickness from 2½ to 45 feet. As a rule, a quarry is commenced at the outcrop; and as it pays to remove a large overburden from thick seams, a number of huge open excavations are formed. When the cover overlying a seam is too thick to be economically removed, or when the seam is thin, galleries from 8 to 12 feet wide are driven, both on the dip and along the strike of the seam, leaving pillars of coal the size of which varies according to the method of working and the thickness of the seams cover. A system which provides for 12 feet galleries and 12 feet pillars yields at once three-quarters of the coal; but the remaining quarter, which is left in pillars, can seldom be won. A system allowing 12 feet galleries and 60 feet pillars yields 30 per cent. of coal in the first working, and 70 per cent. is left in pillars; but unless the seam be more than 20 feet thick, a large proportion of the latter can be obtained in the second, or pillar, working. Pillar working is mainly confined to European-managed mines, as there is always danger of a fire breaking out in large areas of pillars. In driving galleries it is usual to start from the top of the seam with

[1] The corresponding figures for Bengal as now constituted are: receipts, 8·6 lakhs; expenditure, 5·45 lakhs; and net surplus, 3·15 lakhs.

a height of 6 feet, and, after this drive has advanced some distance, to deepen it to the full height of the seam by cutting out the remainder of the coal in successive steps. In a few mines the galleries are commenced in the lower portion of the seam, and are heightened by dropping the coal left above. In the East Indian Railway collieries in the Gīrīdīh coal-field the coal is extracted by a combination of the pillar and long wall methods. The lower portion of the seam is cut up into pillars 6 feet in height, and the latter are thinned down till they are only just able to carry the weight of the overlying coal. These thinned pillars are then blown down by dynamite, and the top coal (17 feet thick), which comes away readily from a strong sandstone roof, falls on the floor. When a large area of coal has been extracted, a rib of coal is left against the worked-out portion, or goaf, and a new set of workings is started.

The methods of raising the coal to the surface vary from the primitive means of baskets carried on the heads of cooly women to hauling sets of 5 or 10 tubs on inclines provided with rails, or hoisting in well-fitted shafts up to 640 feet in depth by direct-acting engines. All three methods are in vogue in the chief coal-fields. The coal is cut with picks of English pattern and make by natives of many castes, including the aboriginal Santāls, Mundās, and Oraons, and the semi-Hinduized Musahars, Bauris, Bāgdis, Ghātwāls, Mahlis, Turis, Chamārs, Telis, and Pāsīs. The majority are recruited from the villages surrounding the coal-fields, and from the adjoining parts of Bānkurā, Mānbhūm, Bīrbhūm, and the Santāl Parganas.

The underground work is performed at a fixed price per tub of coal by families, or gangs of men, women, and children, who choose their own hours of labour. The men cut the coal, and the women and children carry it to the tubs. As a rule, they also push the tubs to the shaft or incline, but at one colliery 110 horses and ponies are employed to 'lead' the coal underground. A man can cut about $2\frac{1}{2}$ tubs ($1\frac{1}{4}$ tons) of coal per day of eight hours; but he seldom works more than five days in the week, and strictly observes all high-days and holidays. The number of working days per year varies from 200 to 300. The total value of coal at the pit's mouth in 1901 was 1·54 lakhs; and as there were 79,652 persons employed, the value of each person's out-turn for the year was Rs. 191. Of this sum, the colliery owner's profit, the landowner's rent or royalty, the cost of stores, tools and equipment, and the superior establishment take about Rs. 98, leaving about Rs. 93 a year as the earnings of each person, or about Rs. 15–8 a month per family.

In 1774 Mr. S. G. Heatly (the reputed discoverer of Bengal coal) and Mr. J. Summer applied to Government for the right of working coal at Rānīganj. In 1777 six mines were worked and 90 tons of coal were

obtained. Nothing further was done till about 1815, when a Mr. Jones mined coal from pits and was the first to sell it in the general market. The industry progressed slowly till 1840, when the imports to Calcutta from Rānīganj reached 36,200 tons. From 1840 to 1845 there was a constant increase in output, which in 1845 amounted to 62,400 tons. The East Indian Railway tapped the fields in 1854, and in 1858 the out-turn had increased to 220,000 tons. In 1903 the out-turn exceeded 3,000,000 tons, obtained from 142 mines employing 34,000 persons daily. The Rānīganj field contains two valuable coal series, which are separated by ironstone shales 1,000 feet thick. The Gīrīdīh field was worked from 1857 to 1861, when it was closed for a time; it was reopened and worked systematically in 1871, and in 1903 its yield was 767,000 tons, from nine mines employing 10,700 persons. It possesses two valuable seams in the lower coal series, and one of the shafts has a depth of 640 feet. Jherriā was opened in 1894, but its output in 1903 had already risen to 2,746,000 tons, from 115 mines employing 28,000 persons. As at Rānīganj, two coal series exist, the lower one containing eighteen, and the upper one two, valuable seams. Of these seams, twelve are being worked. The East Indian Railway Company at Gīrīdīh, and the Bengal Coal Company in the Daltonganj, Gīrīdīh, and Rānīganj coal-fields, each raise more than 600,000 tons yearly; and the output of the Equitable, New Bīrbhūm, and the Barākar Coal Companies exceeds 300,000 tons each. The European-owned collieries raise between them more than 4,000,000 tons, and those owned by natives have an output exceeding $1\frac{1}{2}$ million tons. The capital invested in joint-stock companies is about 115 lakhs, and there is also a large but unknown investment by private owners. The total output of the Province in 1881 was 930,000 tons. In 1891 it had risen to 1,747,000, in 1901 to 5,704,000, and in 1903 to 6,566,000 tons.

The railways consume one-third of the total output. The imports of foreign coal into Calcutta, the only important distributing port, which were 70,000 tons in 1880, had dwindled to 2,000 tons in 1901. The exports to foreign ports amounted to 8 tons in 1880, 26,000 tons in 1890, a quarter of a million tons in 1897, and more than half a million in 1901. In Bombay English coal still competes with Indian, for although the latter can be bought in Calcutta for Rs. 7 per ton, the steamer freight and other charges raise its price to Rs. 15 at Bombay, which is only Rs. 2 less than the cost of English coal of better quality. Indian coal reaches Suez on the west and Singapore on the east; at the latter port it competes with the supply from the Japanese mines.

About 1,700 persons are employed in iron-mining, and practically all the mineral won is dispatched to the works at BARĀKAR, near Asansol, where pig-iron, pipes, and various kinds of castings are turned out. The ore is found in thin alluvial deposits at a number of places, as

masses of hematite and magnetite in metamorphic rocks at Kālīmāti and in the ironstone shales of the Rānīganj coal-field. The alluvial deposits were at one time worked by natives. The Kālīmāti quarries are shallow, and were opened in 1901, when they produced 7,800 tons of ore, rising in the following year to 10,382 tons. The Rānīganj ore is in the form of carbonate below ground, but it readily weathers, and at the surface consists of hematite and limonite. The beds vary from 2 to 8 inches in thickness and form one-seventeenth of the whole series, which is 1,000 feet thick. About 50,000 tons of ore were won in 1901 from shallow trenches and pits. The output of the Province rose from 20,000 tons in 1891 to 58,000 tons in 1901 and to 72,000 tons in 1902. The success of the industry depends in a great measure on the coking qualities of the Bengal coal. Attempts at steel-making have proved unremunerative.

Details of Output and Labour for each Coal-field in 1903

Particulars.	Total.	Name of coal-field.				
		Girīdih.	Jherriā.	Rānīganj.	Daltonganj (Palāmau).	Rāj-mahāl.
Number of mines	27	9	115	142	2	4
Output in thousands of tons	6,566	767	2,745	3,020	34	...
Average number of persons employed daily	73,928	10,691	28,114	33,854	1,235	34
Under ground	49,274	7,739	17,789	22,913	823	10
Men	33,372	5,436	10,622	16,611	697	6
Women	14,744	2,213	6,510	5,892	125	4
Children (under twelve)	1,158	90	657	410	1	...
Above ground	24,654	2,952	10,325	10,941	412	24
Men	15,113	2,155	6,109	6,570	262	17
Women	8,231	618	3,557	3,916	133	7
Children (under twelve)	1,310	179	659	455	17	...

Mica is found over a large area in Gayā, Hazāribāgh, and Monghyr Districts. It occurs in dikes and masses of pegmatite, as more or less defined shoots and patches which, in many cases, are found at the surface during the rains and are worked in the cold and hot seasons. In 1903 there were 251 mines and quarries, employing about 6,500 labourers daily. With the exception of Bendi, all the quarries and mines are worked by primitive native methods. Haulage and pumping are done by women, who are seated on ladders and pass up, from hand to hand to the surface, earthen pots filled with water or baskets with

mica. The output in 1901 was 914 tons, valued at 4½ lakhs, or seven times the quantity obtained ten years previously. Of this amount, 628 tons were obtained by a European firm, which owns a large area of land outside the Kodarmā Government forests, where most of the other mines are situated. In 1903 the output had fallen to 692 tons.

Recent gold-bearing sands are widely distributed, and yield poor wages to a few Jhorās working with wooden dishes. Numerous veins of vitreous white quartz and grey quartzites occur in Singhbhūm District, and in 1895 several small shafts were sunk. Assays give results varying from 1 to 7 dwts. per ton. A small amount of prospecting work was done in 1901. Copper pyrites are found at Bāraganda, in a band of mica and talcose schists varying from 12 to 40 feet in thickness. The only mine hitherto worked was closed in 1891. The rock contains 3 per cent. of copper, which was increased by concentration to 12 per cent., and the concentrates were carted to Girīdīh and smelted. In all, 1,100 tons of copper were obtained. At Rājdoha also copper has been worked in small quantities. Alluvial tin is reported from Hazāribāgh, but it has not yet been found in paying quantities.

The saltpetre of Indian commerce is obtained mainly from the Patna Division and Monghyr. It occurs as a natural efflorescence on the surface of the ground, and its manufacture affords employment to a large number of people belonging to the caste (Nuniā) named after it. The quantity produced in 1900 is estimated at 160,000 cwt., valued at 12 lakhs, or rather less than the out-turn in 1891. In 1903 the out-turn was 382,000 cwt., of a total value of 22·33 lakhs.

Slate has been quarried in Monghyr for many years, and is now mined. The industry gives employment to nearly 400 persons, and 1,600 tons were produced in 1903. There are two beds of slate on edge, 13 and 9 feet thick respectively. Owing to 'creep' in the hill-side, quarrying has been given up and underground chambers are now cut, from 15 to 25 feet in height, leaving a minimum cover of 30 feet. The slates are thicker than Welsh slates, but are strong and suitable for the flat roofs of Indian bungalows. The castes employed are chiefly Koras, Musahars, Beldārs, Gonrs, Nuniās, Chamārs, and Goālās.

Limestone is widely distributed in the nodular form known as *kankar*, except in the deltaic tract east of the Bhāgīrathi. In 1900 the out-turn was 100,000 tons, valued at three-quarters of a lakh. Sandstone, suitable for building and road-making, is found in the coal-fields. An output of 40,000 tons, valued at a quarter of a lakh, was reported in 1900. Laterite is found in Bihār and Orissa; 100,000 tons, valued at half a lakh, were raised in 1900. Granite and other igneous rocks are used in Gayā and Hazāribāgh for road-metal. Soapstone occurs in Mānbhūm, and is made into cups and images, but the industry is small.

Throughout the Province various handicrafts are carried on, but, as a rule, the articles manufactured suffice only to meet the local demand. DACCA* and SĀNTIPUR were formerly famous for their fine muslins; and early in the nineteenth century the quantity exported to Europe, and especially to France, was very great. From Dacca* alone the exports in 1817 were valued at 152 lakhs. Ordinary cotton goods were also in great demand for the European market, and as early as 1706 efforts were made to induce weavers to settle in the neighbourhood of Calcutta. The introduction of machinery in Europe has not only killed the export trade, but has flooded the country with cheap piece-goods and seriously crippled the local weaving industry. Country-made goods, however, are more durable, and, in the more remote parts, country weavers have maintained their business. The weavers of SERAMPORE, who use an improved loom, still hold their own, and so do those of Dacca*, where a carefully bleached white cloth with a border of gold thread is made; while in Patna District the trade in cotton goods and cheap muslins made at Dinapore is still fairly brisk. Cotton-spinning, except as a domestic industry, no longer exists, and the weavers generally work with imported yarn or cotton twist.

Arts and manufactures.

Jute is worked up into cloth for gunny-bags, sails, and quilts, mainly in Hooghly and Dacca*, but smaller quantities are manufactured in most parts of Bengal proper. This work is the speciality of the Kapāli caste. The yarn is prepared by the men, and the women weave the cloth. Jute is also twisted into twine from which ropes are afterwards made.

The silkworm is reared in West Bengal and in the tract where the Presidency and Rājshāhi* Divisions meet. The industry was threatened with extinction, owing to diseases among the worms; but the subject has been investigated by Government agency, and remedies have been applied with a fair measure of success. Silk-reeling is carried on in both European and native filatures, and raw silk is largely exported, the value of the exports amounting in 1903–4 to 47 lakhs. Silk thread is twisted from the reeled silk by women, and is knotted and uneven. The cloth woven is thus of a rough quality, but in spite of this silk-weaving was once a flourishing industry. Of late years it has suffered greatly from the competition of silks made in Japan, China, and Italy, and the value of manufactured silk exported in 1903–4 was estimated at only 6 lakhs compared with 18 lakhs in 1881. The weaving of mulberry silk, which is made chiefly for export, is carried on in Murshidābād and several Districts of West Bengal. That of *tasar* silk, which is in demand among natives, who wear it when performing religious ceremonies, has its head-quarters in West Bengal, Mānbhūm, and Gayā; the business is still fairly prosperous, but, as the worm

is not cultivated and the cocoons are collected in the jungle, the supply is very fluctuating. In East Bengal *mūgā* silk from Assam is woven, and in North Bengal a rough cloth is made by the Mech women from the silk of the *eri* worm. A mixed cloth, the warp of which is *tasar* silk and the woof cotton, is woven at Dacca*, Bhāgalpur, and Bānkurā.

Locally made cloths and English cloths of similar texture are embroidered in coloured silks and cottons at Sāntipur by the women of the weaving class, but the arrangement of colours is not very pleasing. Embroidered caps are made at the town of Bihār. Skilled embroiderers in gold and silver are found at Patna and Murshidābād, but their work is chiefly confined to caps and to the trappings of horses and elephants. In Calcutta and the neighbourhood, the fancy work known as *chikan* is a thriving industry, and there is a considerable demand for it in Europe.

Cotton carpets are made at Nisbetganj in Rangpur* and at a few places in Bihār. The weaving of woollen goods is carried on only in Bihār and in part of Murshidābād District; but the industry is almost entirely confined to the manufacture of blankets, which are made for the most part by the shepherds themselves. The cloth is woven in narrow strips which are afterwards stitched together. Woollen carpets of good texture are made at Obrā in Gayā District.

The filigree gold- and silver-work of Cuttack and Dacca* is well-known. The silver-work of Kharakpur in Monghyr is famous, and there are also skilled workers in Calcutta. Blacksmiths and workers in iron are found everywhere, but most of them are employed in the manufacture and repair of agricultural implements and other articles of general use. In Patna, Calcutta, and Kishanganj (Purnea), iron cages, platters, spoons, chains, bolts, &c., are made. A few cutlers work in the suburbs of Calcutta, at Kānchannagar near Burdwān, and at one or two other places. Padlocks and keys are manufactured on a small scale at Nātāgarh and elsewhere. Monghyr was famous for its iron-workers before the days of foreign competition, and it still holds a relatively high position. Its speciality is the making of shot-guns; but during the last few years the business has declined, and in 1901 only 463 guns were manufactured, or less than one-sixth of the out-turn four years previously. The number of fire-arms exported in 1903-4 was 899. This is attributed by the dealers in arms partly to the effect of foreign competition, and partly to the reduced number of gun licences issued in recent years. The manufacture of brass and copper utensils is the one indigenous industry which has not suffered from foreign competition. Figures, supports for *hukkas*, hinges, and the like are sometimes moulded; but the chief articles manufactured are domestic utensils, vessels of brass being used by Hindus and of copper

by Muhammadans. They are made either by casting and moulding, or by joining together pieces of beaten-out metal, which at the present day is usually imported in sheets from Europe. The methods employed are of the simplest, and practically no machinery is used.

The manufacture of earthen vessels is carried on everywhere in Bengal, but the best ware is made in Burdwān District, on the banks of the Bhāgīrathi, where the clay is especially suitable for the manufacture of durable pottery. Black earthen jars are exported in large quantities from the Sātkhira subdivision of Khulnā, and are used for storing oil and grain. In Monghyr porous water vessels are made, and decorated pottery of graceful form is produced at Sasarām. Ornamental pottery is also made at Siwān in Sāran, which is remarkable both for its shape and decoration. The vessels are baked in earthen jars to prevent contact with the flames; they thus become black when baked, and are then glazed with a mixture of clay and fuller's earth. Owing partly to the absence of suitable clay, and partly to the fact that Hindus think it necessary to change their earthen vessels constantly, nothing has yet been done in Bengal towards the production of porcelain or white earthenware. Glazes also are rarely resorted to. Occasionally vessels are smeared, before burning, with a mixture of fine clay, but the art of fusing glazes is not understood. Clay figures of some merit are moulded at Krishnagar, and idols with no pretensions to artistic skill are made everywhere.

Stone-carving, as an art, is practised only in Gayā, where small statues of gods and figures of animals are made of granite; the carving of stone for the decoration of temples and buildings has almost entirely died out in Bengal. Glass-ware is made, chiefly in Patna, from Son river sand mixed with carbonate of soda. The glass is green and clouded, but at Patna a fair amount of white glass is now made. Bottles for holding perfumery, lamps for illuminations, and glass bangles are the chief articles produced. Bracelets of coarse glass are also made at Bhāgalpur.

The ordinary carpenter of Bengal is a very rough workman, and is capable of little beyond the making of ploughs and other simple articles in common use among the people. In North and East Bengal, Orissa, and Chotā Nāgpur, the number even of such carpenters is deficient. Carving in wood was formerly practised as an adjunct to architecture, and there are traces of the skill of former workmen in the carved balconies of Patna, Gayā, and Muzaffarpur. This sort of work has almost entirely died out; and the only indigenous wood-carving deserving of mention at the present time is that of the ebony-workers of Monghyr, who make pieces of furniture, boxes and other small articles, which are inlaid with patterns in horn and ivory. In some parts, especially in the Patna Division, carpenters have been taught by Europeans to make

articles of furniture from European models, and they often acquire great accuracy and finish. In Calcutta there are now numerous cabinet-makers who learnt their art in the English shops. In Muzaffarpur *hukka* stems are turned, and over 200,000 are exported yearly; *pālkis* and cart-wheels are also manufactured on a large scale.

Conch-shell bracelets are made chiefly in Dacca*. They are sawn out by a large metal disk, and are then polished and coloured. Bengal has always been famous for its ivory-carving, the peculiar feature of which is the minuteness of the work, which requires about eighty different tools. The number of persons now employed is, however, very small, and consists only of a few families in Murshidābād, Rangpur*, and Cuttack. Metal inlaying is practised in a few places, the best known being the so-called *bidri* work of Purnea and Murshidābād, which was introduced from the Deccan, and consists of inlaying with silver a sort of pewter, which is made black with sulphate of copper.

Mat-making is largely carried on in South Midnapore, whence comes the cyperus matting sold in Calcutta, and mats of fine reeds are woven in various parts of East Bengal. Bamboo mats and baskets are made everywhere, and fancy baskets of coloured grasses in Bihār. The indigenous Chamār, or leather-dresser and cobbler, is found all over the Province; but his work is very rough and is confined to meeting the simple requirements of ordinary village life—the supply of leather straps for plough yokes, rough shoes, and the like. In Calcutta a number of shoemakers working in the European style are found, comprising both Chinamen and natives of the country. Leathern harness is made on a small scale in Calcutta and Patna.

The extended use of jute, as a fibre, dates from 1832, when experiments made in Dundee showed that it could be used as a substitute for hemp; and a further impetus was given to the demand when the difficulties which once existed in bleaching and dyeing it were overcome. It is used not only for the making of gunny-bags and coarse cloth, but also in the manufacture of carpets, curtains, and shirtings, and is largely mixed with silk or used for imitating silk fabrics. The rapid spread of jute cultivation during recent years has already been described. The whole of the raw material, except such as was required for the hand-looms of the villages, was formerly exported to Europe, mainly to Dundee; but of late a flourishing local industry has been established, and the banks of the Hooghly are now lined with jute-mills, which are rapidly growing in number and importance. In 1903-4 there were 36 mills with 18,000 looms, employing 122,724 hands, compared with 25 mills with 9,000 looms and 66,000 hands in 1892-3. Nearly half the raw jute produced in Bengal is now consumed in these mills; the value of gunny-bags, rope, and other goods exported in 1901-2 was 859 lakhs, against only 100 lakhs twenty years previously; and the

export had further increased by 1903-4 to 936 lakhs. Jute presses are also increasing rapidly in number; in 1903 there were 155, compared with 37 in 1892 and only 4 in 1882.

The great centre of the Indian cotton-manufacturing industry is in Bombay, but it is steadily growing in importance in Bengal, and there are now ten mills employing about 11,000 hands, compared with an average of six mills employing 6,000 hands in the decade 1881-90. In 1903-4 the out-turn of yarn exceeded 46,000,000 lb. and that of cloth was nearly 700,000 lb. The capital invested has risen from 83 to 177 lakhs.

The principal statistics in connexion with the jute and cotton industries are shown in the following table:—

	Number of mills.	Number of looms.	Number of spindles in thousands.	Average daily number of persons employed.
Jute-mills:				
1880-1	19	4,893	66	33,994
1890-1	25	8,066	162	61,563
1900-1	34	15,169	314	110,051
1903-4	36	18,234	373	122,724
Cotton-mills:				
1880-1	6	126	167	4,166
1890-1	8	...	297	8,790
1896-7	9	200	348	10,900
1900-1	10	209	411	8,030
1903-4	10	213	451	10,230

There were in 1903 four paper-mills with a capital of 50 lakhs, employing on the average nearly 900 hands each, and producing nearly 36,000,000 lb. of paper. The capital invested and the production have quadrupled since 1881-90. Other large industries are also growing apace, such as iron and brass foundries, oil-mills, silk, soap, and lac factories, potteries, rope works, &c.; and for miles above Calcutta the banks of the Hooghly present a scene of industrial activity which bids fair in time to rival that of the largest towns in Europe. The principal statistics of these undertakings are shown in the following table:—

Number in	Industries.								
	Iron and brass foundries.	Oil-mills.	Lac factories.	Potteries.	Rice-mills.	Rope-works.	Silk factories.	Silk-mills.	Soap factories.
1881	4	...	1	1	3	2	20	4*	1
1891	15	32	39	1	2	5	80	2*	...
1901	25	47	16	2	1	7	71	10	1
1903	38	63	48	1	1	7	62	8	1

* These figures include some weaving establishments, the number of which was not reported.

These industries are at present worked chiefly under European supervision and supported by European capital. It may be hoped that in time the natives of the country will follow the lead thus given them.

It is said that the supply of labour for these large industries has not kept pace with the rapidly growing demand, but in spite of this the number returned as employed in 1902 aggregated 253,000, compared with 247,000 ten years earlier. The real increase is much greater, as many industries employing less than twenty-five persons have been left out of account in recent years; and if allowance be made for these, the total number of labourers employed in 1902 may be estimated at 275,000. The returns for 1903 show altogether 261,656 persons employed. These labourers come chiefly from Bihār and the United Provinces and, to a less extent, from Chotā Nāgpur. The wages offered by the mills are nearly double those obtained by unskilled labourers in the tracts whence they chiefly come; and, although the cost of living is also higher, there is no doubt that the rapid expansion of this field of employment is a great boon to the poorer classes. Their main object is to save as much money as they can for the support of their families at home or as a provision for their old age. In the meantime, they live huddled together in crowded lodging-houses as close as possible to the mills and factories where they work; but in other respects they fare far better than they would do in their own country, and their dietary is much more liberal and of a far better quality than that to which they are accustomed at home.

Commerce and trade.

British trade with Bengal commenced about 1633; but prior to the acquisition of the Province it was on a very small scale, and in 1759 only thirty vessels with an aggregate burden of less than 4,000 tons sailed from Calcutta. The chief exports were opium from Bihār and Rangpur*, silk manufactured goods and raw silk from Murshidābād and Rājshāhi*, muslins from DACCA*, indigo and saltpetre from Bihār, and cotton cloths from PATNA. Little except bullion was imported. The 150 years of British rule have witnessed a commercial revolution. Hand-woven silks and cottons are no longer exported, and machine-made European piece-goods have taken the first place among the imports. On the other hand, owing to the increased facilities for the transport of goods, the food-crops have been largely displaced by fibres and oilseeds, which now figure largely among the exports. The principal imports are yarns and textile fabrics, metals and machinery, oil, and sugar; and the principal exports are raw and manufactured jute, coal, tea, opium, hides, rice, linseed, indigo, and lac. Bengal enjoys a practical monopoly of the export of coal, raw and manufactured jute, lac, saltpetre, and raw silk, and has a large or preponderating share in that of opium, indigo, rice, hides, and tea.

The maritime trade of the Province is concentrated in CALCUTTA. CHITTAGONG*, the terminus of the Assam-Bengal Railway, exports jute, rice, and tea, and imports salt and oil; but its total trade is still comparatively small. The Orissa ports do an insignificant rice trade. The head-quarters of the jute trade are NĀRĀYANGANJ*, SIRĀJGANJ*, CHĀNDPUR*, and MĀDĀRĪPUR* in East Bengal, and JALPAIGURĪ* in North Bengal; the jute-mills line both banks of the Hooghly river from 10 miles below to 30 miles above Calcutta. Patna is still a market for grain, but the East Indian Railway has robbed it of much of its importance. RĀNĪGANJ, ASANSOL, GĪRĪDĪH, JHERRIĀ, and BARĀKAR are the centres of the coal trade. Calcutta, with its suburbs of HOWRAH, GARDEN REACH, and CHITPUR, is the centre of the commercial and industrial activities of the Province.

The Bengal Chamber of Commerce was founded in 1834, and represents all the large commercial interests of Calcutta. The Bengal National Chamber of Commerce and the Calcutta Trades Association have been formed to protect the interests of native merchants and of the retail trading community. The affairs of the Calcutta and Chittagong ports are administered by Port Trusts.

Broadly stated, the imports into Calcutta represent the convergence of the products of the country to the chief seaport for shipment overseas, and the exports from Calcutta the distribution inland of foreign imports; the principal articles of export and import are thus the same as have already been enumerated for the Province as a whole.

The registration of internal trade is defective, except for Calcutta, and complete returns exist only for rail-borne traffic. The Province is divided for registration purposes into eight blocks. The articles most largely exported from the Eastern block are jute, grain and pulses, timber, kerosene oil, and fodder; from the Northern block jute, grain and pulses, tobacco, and tea; from the Dacca* block jute; and from Bihār grain, pulses, oilseeds, stone, and lime. All the blocks obtain their piece-goods from Calcutta. Calcutta receives rice from East and West Bengal; coal from West Bengal and Chotā Nāgpur; jute from Dacca* and East and North Bengal; timber from East Bengal; grain and pulses from West, East, and North Bengal, Dacca*, and Bihār; and oil-seeds, opium, and indigo from Bihār. West Bengal imports salt, oilcake, wrought iron and steel, and sugar from Calcutta; coal and timber from Chotā Nāgpur; and grain, stone, lime, and oilseeds from Bihār. East Bengal draws its supplies of salt and railway material from Calcutta; coal from West Bengal and from Chotā Nāgpur; and jute and rice from North Bengal. Bihār imports coal and timber from Chotā Nāgpur.

The railways, rivers, canals, and roads carry country produce to the ports for export, and distribute the imports: the main routes of traffic will be described under the head of Communications. Calcutta,

the chief receiving and distributing centre, is connected with all parts of the Province by the railways, which carry the bulk of the internal trade. Next in importance as a channel of communication are the CALCUTTA AND EASTERN CANALS, which carry enormous quantities of rice and jute from the eastern Districts into Calcutta.

Jute is either exported from Calcutta or manufactured in the mills on the Hooghly. In the former case it is pressed into bales to reduce the freight. One-third of the jute pressed at Nārāyanganj* finds its way to Chittagong* by the Assam-Bengal Railway, and is thence shipped direct. The presses and the mills obtain their jute from the cultivator through native brokers, and the trade in Calcutta is largely in the hands of European brokers. Tea grown in North Bengal is taken to Calcutta by rail, but most of that produced in Assam is carried thither by steamer, and shipped thence to London either by the producers, or by brokers who purchase it at auction. Considerable and increasing quantities of Assam tea are, however, now sent by the Assam-Bengal Railway to Chittagong*, and are shipped thence direct to England. Coal is carried by rail from the mines to Calcutta, whence it is shipped to Bombay and other coast ports. Opium intended for export is also brought to Calcutta, where it is sold at auction by the Board of Revenue. Imported foreign goods are bought by native merchants, through European brokers, from the consignees, and distributed up-country.

Only 8 per 1,000 of the population are engaged in commerce. A great part of the trade is in the hands of enterprising merchants from Mārwār, chiefly Agarwāls and Oswāls; the indigenous dealers belong in Bengal to the Sunri, Kāyasth, Teli, Subarnabanik, and Brāhman castes, and in Bihār to the Rauniār and Kalwār castes. The Mārwāris are bankers and money-lenders, and dealers in piece-goods and country produce; of the other castes mentioned, the Brāhmans and Kāyasths are engaged as brokers, money-lenders, and bankers, while the others are for the most part petty shopkeepers.

Statistics of the value (i) of the trade with other Provinces and States in India, (ii) of the foreign maritime trade, and (iii) of the foreign land trade are given in Tables V–VII on pp. 348–50. Of the trade by sea with other Provinces the largest share, both in imports and exports, is with Burma, which sends rice, timber, and kerosene oil to Bengal, and receives from it coal, tobacco, gunny-bags, and betel-nuts. Next comes the Bombay Presidency, which supplies Bengal with cotton goods and salt, in exchange for coal, rice, gunny-bags and cloth, and tea. The trade by land with Provinces other than those named is carried by rail and river, and much of it is due to the position of Calcutta as a seaport and medium of trade with other countries. The largest share of this trade is with the United Provinces, whence are received opium,

oilseeds, grain and pulses, hides and skins, and wool manufactures, and to which are sent cotton piece-goods, gunny-bags and cloth, metals, and sugar. From Assam, Calcutta receives tea, oilseeds, grain and pulses, and stone and lime, and sends in return cotton piece-goods, metals and manufactures of metals, oils (mostly rape and mustard), and salt. Excluding the trade with Calcutta, the imports of Bengal consist mainly of the staple products of the United Provinces, Assam, and the Central Provinces, and the exports consist mainly of grain and pulses, coal, jute, gunny-bags and cloth, spices, and sugar.

Of the foreign trade by far the largest part is with countries in Europe; and of this the greatest share is with the United Kingdom, from which two-thirds of the imports come. Kerosene oil is imported from Russia, sugar and piece-goods from Germany, wrought iron and steel from Belgium, and sugar from Austria-Hungary and from the Straits. The United Kingdom takes one-third of the total exports, and Germany as much as all the other countries combined.

The foreign land trade is insignificant except with Nepāl, which absorbs about 92 per cent. of the total. Tibet still presents a practically closed door to the Indian trader, and with Sikkim and Bhutān the trade is trifling. About half of the imports consists of grain and pulses (largely rice); the exports are cotton yarn and piece-goods (European and Indian), metals, provisions, and salt.

Communications.

The total length[1] of the railways in the Province in 1904 was 4,578·4 miles, of which the state owned 3,894·8 miles, 971·3 being worked by the state and 2,923·5 by companies, while 616·7 miles belonged to assisted companies, 33·3 miles to an unassisted company, and 33·6 to Native States; no lines are owned by guaranteed companies. Of the total length, 2,932·6 miles belonged to inter-Provincial railways; these are the East Indian, Bengal-Nāgpur, Assam-Bengal, and Bengal and North-Western Railways.

The East Indian Railway, a broad-gauge line owned by the state, the length of which in Bengal is 1,211·6 miles, connects Bengal with the

[1] In the same year the railways in Bengal as now constituted had a length of 3,484·9 miles, of which 3,040·5 miles were owned by the state, 377·5 miles by assisted companies, 33·3 miles by an unassisted company, and 33·6 miles by Native States. Of the state-owned railways, 2,808·8 miles were worked by companies, and 231·7 by the state. Of the total length, 3,049·6 miles belonged to inter-Provincial railways: namely, the East Indian, Bengal-Nāgpur, Bengal and North-Western, and Eastern Bengal State Railways.

As a result of the partition the following railways now lie entirely outside the Province: the Assam-Bengal (193·9 miles), Bengal-Duārs (152·3), Mymensingh-Jamālpur-Jagannāthganj (51·4), and Noākhāli (34·9) Railways. The Eastern Bengal State Railway now lies partly outside Bengal, 231·6 miles being included in the Province and 739·6 miles in Eastern Bengal and Assam. The length of the Bengal-Nāgpur Railway within Bengal has at the same time been increased by 79·2 miles.

United Provinces, and for many years was the only connexion between Calcutta and Bombay. It enters Bengal on crossing the Karamnāsā river a little west of Buxar, and has its terminus on the west bank of the Hooghly at Howrah, which is connected with Calcutta by a pontoon bridge. There is also a short link-line which connects the East Indian Railway at Hooghly with the Eastern Bengal State Railway at Naihāti. The earliest alignment of the East Indian Railway ran due north from Howrah to Sāhibganj, where it struck the Ganges, and then swung westwards along the south bank of that river. This is now known as the loop-line, and has been replaced for through traffic by a chord-line from Luckeesarai to Khāna junction. Another chord-line from Mughal Sarai via Gayā and Katrasgarh to Sītārāmpur was opened in 1907. The East Indian Railway is the main carrier between Bengal and the United Provinces, and it taps the coal-fields in the neighbourhood of Rānīganj. This railway is worked by a company, which also works the South Bihār and Tārākeswar Railways, two small broad-gauge lines owned by assisted companies.

The Bengal-Nāgpur Railway is owned by the state, but is worked by a company of that name. It is a broad-gauge line with a length of 855·4 miles within Bengal, and a terminus at Howrah; it forms a connecting link between Bengal and Madras, and provides an alternative and shorter route to Bombay. The bifurcation of the lines to Madras and Bombay takes place at Kharakpur, 70 miles west of Calcutta, whence the Madras line runs south through Orissa, while the Bombay line passes west through Chotā Nāgpur to the Central Provinces. This line taps the Jherriā coal-field, and competes with the East Indian Railway as a coal-carrier to Calcutta.

The Assam-Bengal Railway is also a state line worked by a company. It is a metre-gauge line with a length of 193·9 miles within Bengal. The terminus is at Chittagong* and the main line runs north-east to Assam. From Lākshām* a branch runs west to Chāndpur* on the Meghnā, whence communication with Calcutta is established by steamer to Goalundo*; and another branch from Lākshām* to Noākhāli* has also been opened by the company, to whom land was given free of charge. This line competes with the river steamers in carrying tea from Assam, and it also brings Nārāyanganj* jute from Chāndpur* to Chittagong* for shipment.

The Bengal and North-Western Railway, a metre-gauge line, connecting North Bengal and Bihār with the United Provinces, belongs to an assisted company, which also works the Tirhut State Railway, and has a length in this Province of 671·7 miles, including 535 miles of the Tirhut State Railway. The metre-gauge line from Sagauli to Raxaul, 18 miles in length, was purchased from a company and incorporated with the Tirhut State Railway. It is linked with the

Eastern Bengal State Railway at Katihār, and with the East Indian Railway by ferries across the Ganges.

The railways lying wholly within Bengal are the Eastern Bengal State (including the former Bengal Central), the Noākhāli[1] (Bengal), the Mymensingh-Jamālpur-Jagannāthganj[1], the South Bihār, the Bengal-Duārs, the Calcutta Port Commissioners', the Darjeeling-Himālayan, the Deogarh, the Tārakeswar and the Cooch Behār Railways, and the Howrah-Amtā, Howrah-Sheakhāla, Tārakeswar-Magrā, Bakhtiyārpur-Bihār, Bārāsat-Basīrhāt, and Baripādā light railways.

The Eastern Bengal State Railway is of different gauges: 278·7 miles on the 5 feet 6 inch gauge and 20·3 miles on the 2 feet 6 inch gauge are on the south of the Padmā, and north of that river 637·6 miles are on the metre-gauge and 34·8 miles on the 2 feet 6 inch gauge. The Cooch Behār State Railway, on the 2 feet 6 inch gauge, which is also on the north of the same river, forms part of the Eastern Bengal State Railway system. The terminus is at Sealdah in Calcutta. The main line runs north to the foot of the Himālayas at Silīgurī, crossing the Padmā by a ferry at Sāra*. From Porādaha a branch line runs east to the steamer terminus at Goalundo*; and from Pārvatīpur*, north of the Ganges, branches run east to Dhubri in Assam and west to Katihār, where a junction is effected with the Bengal and North-Western Railway. Branch lines run south from Calcutta to Diamond Harbour, Budge-Budge, and Port Canning; and an isolated branch from Nārāyanganj* runs north to Dacca* and Mymensingh*, and thence to Jagannāthganj* via Singhāni. This railway brings to Calcutta large quantities of jute and tea from North Bengal and of jute from East Bengal.

The Bengal Central Railway, on the 5 feet 6 inch gauge, is a state line formerly worked by a company, which has been worked by the Eastern Bengal State Railway since July 1, 1905, the date of the termination of the contract between the Secretary of State for India and the company. It runs north-east from its terminus at Sealdah to Khulnā, with a branch from Bangaon to Rānāghāt, and carries a large jute traffic. The Bengal-Duārs Railway on the metre-gauge traverses Jalpaigurī District*, and is connected with the Eastern Bengal State Railway system at Jalpaigurī* and Lālmanir Hāt*. It serves the sub-Himālayan tea district known as the Duārs. The Calcutta Port Commissioners' Railway on the 5 feet 6 inch gauge connects the Eastern Bengal State Railway north of Calcutta with the docks; a short branch runs on the Howrah bank from Telkal Ghāt to Shalimār. The Deogarh Railway is a metre-gauge line of short length running from Baidyanāth, a station on the East Indian Railway, to Deogarh, a popular place of Hindu pilgrimage. The Darjeeling-Himālayan Railway, which is

[1] Transferred entirely from Bengal.

assisted by Government, runs from Silīgurī, the northern terminus of the Eastern Bengal State Railway, to Darjeeling. The ruling gradient is 1 in 28, and curves with radii varying from 60 feet (the sharpest) to 1,000 feet are almost continuous on the hill portion of the line.

The Howrah-Amtā Light Railway, like most of the other light lines, receives a 4 per cent. guarantee from the District board, and any profits above that figure are divided equally between the board and the company. Several similar lines have been constructed of late years, the most recent being the Bārāsat-Basīrhāt Railway opened in 1905. The Tārakeswar-Magrā Light Railway is also on the 2 feet 6 inch gauge. The Baripādā Light Railway, a feeder-line with a 2 feet 6 inch gauge, opened in 1905, connects the Mayūrbhanj State with the Bengal-Nāgpur Railway system.

The rapid extension of railways has revolutionized agricultural and trade conditions. They have rendered the greater portion of the Province immune from famine, and have greatly reduced the difficulty of battling with it in the few Districts still liable to its attacks. The railways have also done much to level prices and to moderate their fluctuations; and by putting food-grains in circulation, they have led to a vast increase in the cultivation of fibres, oilseeds, and other non-food crops of commercial value.

The principal statistics in connexion with the Provincial railways are given in Table VIII at the end of this article (pp. 351-2).

Roads are classed as Provincial or District roads, the former being maintained from Provincial and the latter from District funds. Provincial aid is occasionally given to the District boards for the construction of new roads, especially for those intended to serve as feeders to railways. Minor roads are classed as municipal, Local fund, military or cantonment, and village roads.

The total length[1] of Provincial roads, which was 1,663 miles in 1890-1 and 1,659 in 1900-1, increased to 2,406 in 1903-4. During the same periods the length of District roads increased from 32,110 to 37,728 and to 50,631 miles respectively; the last figure includes a great many village roads already in existence but not previously taken into account. The maintenance of Provincial roads cost 6·27 lakhs in 1890-1, 12·29 lakhs in 1900-1, and 9·99 lakhs in 1903-4. The corresponding figures for District roads were 22·09, 22·81, and 21·16 lakhs. The increase in the cost of maintenance of Provincial roads in 1900-1 was due to the expenditure of 7·34 lakhs on the Darjeeling roads after the cyclone. The grand trunk road traverses the Burdwān, Chotā Nāgpur, and Patna Divisions, from Calcutta to the western frontier, with a total

[1] The total length of Provincial roads in 1904-5 in the Province as now constituted was 2,362 miles, and of District roads 36,367 miles. The cost of maintenance of Provincial roads was 8·21 lakhs, and of District roads 14·45 lakhs.

length in the Province of 390 miles. The Orissa trunk road runs from Calcutta via Cuttack to the Madras border, the length being 320 miles. The Rānīganj-Midnapore road has a length of 101 miles, and the Barākar-Rānchī road of 120 miles. The Ganges-Darjeeling road runs from near Katihār to Silīgurī for 124 miles. These roads are metalled. An important unmetalled road runs from Chittagong* to Daudkāndi*, a distance of 124 miles.

In the alluvial soil of Bengal proper it is very difficult to make good roads. The roads are raised by embankments above the level of the swamps with earth dug from the roadsides, but, stone not being available locally, very few of them can be metalled. Those which are metalled are soled with brick and dressed with broken brick. Stone is employed only in Calcutta and Chittagong*, to which ports ships bring stone in ballast. Elsewhere in the Province laterite and *kankar* make excellent road material, and stone also is sometimes available. The construction of railways has diminished the importance of the trunk roads, some of which have consequently been made over to District boards for maintenance. On the other hand, the increased facilities afforded by the railways for the export and import of goods have created a demand for numerous feeder-roads.

The ordinary country cart of Bengal consists of a framework of bamboo, supported on two wooden wheels and a wooden axle. The body is in the shape of a triangle tapering down towards the front, and it is drawn by a pair of bullocks which are yoked to a cross-bar about 4 feet long. The felloes of the wheels are made of six segments of *sissū* wood, and there are six spokes arranged in parallel pairs. The *ekkā* is a light two-wheeled trap, drawn by a single pony. The body consists of a framework covered with coarse cloth with *newār* tape woven across. It can be used over the most uneven ground. The *manjholī* and the *champani* are both drawn by a pair of bullocks. The former is similar to an *ekkā*, but the yoke consists of a beam of wood at right angles to another long beam projecting from the body of the cart. The *champani* is a two-wheeled, and sometimes a four-wheeled, light carriage similar in construction to an omnibus. It has, however, no benches within to sit on, and the travellers squat or lie down as they please. It has a pole with a cross-bar, which rests on the necks of the bullocks which drag it.

On the hill roads of Darjeeling a very heavy strongly made cart is used. In Bihār a distinction is made between the large heavy country cart or *chakrā* and the *sāgar*, which is rougher, lighter, and cheaper, but otherwise very similar. In Chotā Nāgpur and the Orissa Tributary States, where the *sāgar* is also in use among the villagers, the wheels do not exceed 2½ feet in diameter, and are made by joining three pieces of solid wood hewn out of a mango or *mahuā* tree; being low and narrow, it is well suited for rough work and bad roads. The Oriyā cart is

peculiar. It consists of two poles of *sāl* wood or bamboo tied together at one end and about 3 feet apart at the other, and joined by cross-bars at intervals. The framework rests on a pair of wheels about 4 feet high and about 4 feet apart, and there is as much behind as in front of the axle-bar. The bullocks are yoked one on each side of the narrow end, and will drag half a ton 15 or 20 miles a day on a metalled road. For carrying grain a long coffin-shaped basket of split bamboo holding some 10 maunds is fitted on to the body of the cart, while in towns the body itself is often made in the shape of a box for transporting road materials. In Cuttack town, with the advent of the railway, the light little Madras hackeries drawn by a single bullock have become common.

Several steam tramways have been opened in rural areas; but these would be more properly described as light railways, and as such have been mentioned in the section dealing with railways. The only tramway in urban areas is that serving the city of Calcutta, which is owned by a private company. This tramway was formerly dependent on horse traction; but the unsatisfactory condition of the tramway lines and of the traction employed led in 1900 to the framing of a new agreement between the Corporation and the company, the main features of which were the introduction of electric traction by means of overhead wires, the postponement of the Corporation's right to purchase the tramways to 1931, and the restriction of the fixed track rents payable by the company for the existing tramways to Rs. 35,000 a year. An arrangement has recently been made with the Calcutta Tramways Company for the introduction of a similar electric tramway service in Howrah.

The CALCUTTA AND EASTERN CANALS are a system of improved natural channels connected by artificial canals, which carry the produce of East Bengal and of the Brahmaputra Valley to Calcutta. The total length is 1,127 miles, and the capital outlay amounts to 77·1 lakhs. The net revenue in 1903–4 was 1·3 lakhs, and in the same year the value of the goods carried was estimated at 512 lakhs.

The HIJILĪ TIDAL and ORISSA COAST CANALS run from the mouth of the Rūpnārāyan river to Chāndbāli in Balasore District, with a total length of 159 miles. The capital cost of the two canals has been 26·15 and 44·79 lakhs respectively. Their gross revenue in 1903–4 amounted to Rs. 42,000 and Rs. 34,000 respectively; the former showed a small profit and the latter a loss on the year's working. The Bengal-Nāgpur Railway has diverted much of the traffic from these canals, as it has also from the MIDNAPORE and ORISSA CANALS, which, like the SON CANALS, were constructed primarily for irrigation. The Midnapore Canal is navigable for 72 miles, and the tolls collected in 1903–4 amounted to Rs. 47,153. The Orissa Canals are navigable for 205 miles, and carried in 1903–4 cargo valued at 74 lakhs, the tolls aggregating Rs. 70,336. The SON CANALS are navigable for 218 miles. The East Indian Rail-

way has killed the traffic on them, and in 1903-4 they carried cargo valued at only 16 lakhs, the tolls amounting to Rs. 22,708.

Finally, the NADIĀ RIVERS are a group of spill channels of the Ganges, which are kept open by artificial means in the dry season, and are navigable for 472 miles. In 1903-4 the cargo carried by them was valued at 205 lakhs; the gross revenue amounted to Rs. 88,402, but there was a loss of Rs. 15,986 on the year's working.

In the east of the Province the rivers and estuaries carry the bulk of the country trade, and the roads are little used, especially in the rainy season. The chief waterways are the GANGES and BRAHMAPUTRA, and their joint estuary the MEGHNĀ, which are navigable throughout their course in Bengal by river steamers and large country boats. Both rivers throw off in their lower reaches innumerable distributaries, which intersect the country in every direction and enable boats to find their way to every village and almost to the door of every cottage. The eastern deltaic offshoots of the Ganges feed the Calcutta and Eastern Canals. The GANDAK in North Bihār still carries a heavy traffic, and the MAHĀNADĪ and BRĀHMANĪ tap the hinterland of Orissa.

Weekly steamers ply to Chittagong* and to Chāndbāli on the Orissa coast; small steamers also run from Chittagong* to Cox's Bāzār*. Goalundo*, at the confluence of the Padmā and Brahmaputra rivers, is the terminus of a great steamer traffic up the Ganges to Ghāzīpur, and up the Brahmaputra to Dibrugarh. A daily service to Nārāyanganj* connects Dacca* with Calcutta, while mail steamers to Chāndpur* link up the Assam-Bengal with the Eastern Bengal State Railway. Steamers ply daily from Calcutta through the Sundarbans to Assam, via Barisāl*, Chāndpur*, and Nārāyanganj*. On the Hooghly river steamers run daily up to Kālna, and down to Budge-Budge, Ulubāria, and Ghātāl. On the Padmā steamers ply between Dāmukdia Ghāt and Rāmpur Boāliā* and Godāgāri*, with a continuation to English Bāzār (Mālda)*, and between English Bāzār* and Sultānganj. From Khulnā steamers run to Barisāl*, Noākhāli*, Nārāyanganj*, Mādārīpur* and other places, and there is a daily service on the Brahmaputra from Goalundo* to Phulcharī*. Backergunge District* is also well served by steamers.

Several lines of steamers connect Calcutta with London, the principal being those of the Peninsular and Oriental and the British India Steam Navigation Companies, and the City, Clan, Harrison, and Anchor Lines. The Hansa Line has a steamer service to Hamburg and Bremen, the Austrian-Lloyd Steam Navigation Company to Trieste, and the Brocklebank Line to Antwerp. The South African mails are carried by the Natal Line, while the steamers of the Indian and African Line also ply between Calcutta and Durban. The chief steamers running to Australia are those of the British India Steam Navigation Company and the Currie and Commonwealth Lines. A steamer of the Messageries

Maritimes Company plies regularly between Calcutta, Pondicherry, and Colombo, where it connects with the main line between Marseilles and the Far East. Vessels belonging to the fleet of the British India Steam Navigation Company carry passengers and cargo to Penang and Singapore, and also to Chittagong*, Akyab, Rangoon, Moulmein, and various coast ports on both sides of the peninsula. The Calcutta-Hongkong Line of Messrs. Apcar & Co. maintains a regular service to Penang, Singapore, and Hongkong; while the Asiatic Steam Navigation Company carries the mails to Port Blair, and has a line of steamers running weekly to Burma and fortnightly to the coast ports and Bombay.

Country boats are of all shapes and sizes, and the largest carry some 150 tons. They are generally very broad in the beam and of light draught. All carry a great square sail, the larger boats adding a topsail. Against wind they are rowed, or poled if the water be shallow, and against tide or current they are towed from the bank. The cargo boats are always decked over. Passengers use the budgerow, a broad-beamed craft with ample cabin space and room for a galley in the stern. The *bhauliā* is a smaller and more lightly built passenger boat. On the smaller streams and across the swamps light dug-outs carry all the traffic. They are poled in shallow water and paddled on the deeper channels.

The larger rivers are rarely bridged, and passengers, carts, and cattle cross in ferry-boats. These ferries are leased annually at auction for a considerable sum. Some are Provincial, but most have been made over to District boards and municipalities. The total receipts from ferries in 1903–4 were 6·5 lakhs, of which 5 lakhs was credited to District boards and 1·5 lakhs to municipalities. Steam ferries ply across the Ganges, connecting railway systems; the most important are at Sāra, Mokameh, and Palezā Ghāt. A steam ferry crosses the Hooghly from Diamond Harbour to Geonkhāli.

The Province is divided for postal purposes into three circles[1], of which the Bengal circle (which includes Kātmāndu in Nepāl) is under a Postmaster-General, and the East Bengal and Bihār circles under Deputy-Postmasters-General. Each circle is subdivided into divisions managed by Superintendents. The table on the next page shows the remarkable advance which has taken place in postal business, for the three Bengal circles taken together.

The business is, however, still very small in comparison with the population, and the number of postal articles of all kinds delivered in 1903–4 works out to only two per head of the population. The figures relate to both the Imperial and District post. The latter system was a substitute for the official posts which under ancient custom

[1] In 1905 the Province, as reconstituted, became a single circle, the Bihār circle being abolished.

Bengal landowners had to maintain. A tax, known as the Dāk cess, was levied, and expended in maintaining postal communications required for administrative purposes, the up-keep of which was not warranted on commercial principles. The District Magistrate decided what communications were to be opened and maintained, but their management was in the hands of the Postal department. The expenditure from this cess, which was fixed for each District according to its requirements, averaged 3·58 lakhs annually for the five years ending in 1903-4. In 1903-4 the offices numbered 292, the length worked was 11,832 miles, and the expenditure amounted to Rs. 3,53,384. In 1906 the tax was abolished, and the District post was amalgamated with the Imperial system.

	1880-1.	1890-1.	1900-1.	1903-4.
Number of post offices and letter boxes	4,671	8,089	9,927	11,204
Number of miles of postal communication	21,498	25,672	27,686	28,347
Total number of postal articles delivered (in thousands):—				
Letters	28,550	37,636	57,538	56,495
Postcards	3,433	24,922	53,678	64,307
Packets	382	2,524	6,747	4,803
Newspapers	2,229	5,394	9,388	10,248
Parcels	213	407	804	1,182
	Rs. in thousands.	Rs. in thousands.	Rs. in thousands.	Rs. in thousands.
Value of stamps sold to the public	11,91	12,53	31,35	36,16
Value of money orders issued	1,20,24	5,08,02	7,99,03	8,81,87
Total amount of savings bank deposits	..	1,54,46	2,93,62	3,39,80

Famine.

In an agricultural country like Bengal the failure of the crops must always cause considerable distress, the degree of which varies with the nature and extent of the failure, the material condition of the people, and their character, and lastly the accessibility or otherwise of the tract affected.

The great cause of deficient harvests is insufficient or badly distributed rainfall. Sometimes much damage is done by floods, and sometimes, though more rarely, by blight or locusts; but in such cases the area affected is generally limited.

The crop which is most sensitive to a short or badly distributed rainfall is the winter rice, which requires copious showers in May and a punctual commencement of the monsoon, but is especially dependent on the continuance of the rainfall throughout September and the early days of October; it is this crop which is most liable to fail in adverse

seasons. It follows that, if the rainfall is uncertain, the tracts most liable to famine are those in which the winter rice is most largely grown. In the favoured Districts of Eastern Bengal the winter rice is the staple crop; but there a serious failure of the annual rains is unknown, and the subsoil water-level is so high that, in years when the rainfall is only moderately deficient, the ground retains sufficient moisture to prevent anything approaching a total loss of the crops. The whole of the Dacca* and Chittagong* Divisions are therefore excluded from the list of tracts liable to famine. Here the only danger of disaster arises from the cyclonic storm-waves which, at intervals, burst over the country and carry in their train widespread ruin and desolation. In other parts of Bengal proper, where also the winter rice is as a rule the principal crop, the immunity from famine is less complete; but the rainfall is usually ample, and the areas liable to famine are less extensive than in the other sub-provinces. From time to time the submontane tracts have been swept by disastrous floods; and, when the embankments on the left bank of the Bhāgīrathi give way, floods occasionally break across Murshidābād and Nadiā Districts. The Dāmodar also sometimes inundates the country on its right bank.

In Bihār the conditions north and south of the Ganges differ considerably. The latter has a more scanty rainfall; but it enjoys an extensive system of irrigation, partly from the Son Canals constructed by the Government, and partly from reservoirs constructed by the ryots themselves on the slopes of the undulations which characterize that part of the country. A great variety of crops are grown, and it rarely happens that famine obtains a grip over any considerable area. North of the Ganges the rainfall is more copious than on the south bank, but it is more capricious than in Bengal proper. In Sāran and the south of Muzaffarpur there is a good deal of irrigation from wells or streams, and the crops are divided almost equally among the three great harvests of the year, so that a total crop failure is practically impossible. Elsewhere, and especially in the northern part of Champāran, Muzaffarpur, and Darbhangā Districts, which borders on the Nepāl *tarai*, winter rice is the main crop. In normal years the fertile soil yields bountiful crops without irrigation, which has not been adequately provided and which is necessary only in seasons of drought; but the population is dense, wages are low and rents high, and when the rains fail the distress is great. This is the zone described by Sir Richard Temple as the 'blackest of black spots on the famine map.' There has scarcely ever been a year of distress or scarcity in any part of Bengal when North Bihār did not bear the brunt of it. Orissa suffered terribly from famine in 1866 and 1867; but, since the construction of the canals now in existence, there has been no widespread crop failure, and it is only in Purī District that famine on a large scale is at all likely to occur. Chotā

Nāgpur is a sparsely populated region, inhabited by wild tribes; and its liability to famine is due mainly to its inaccessibility, which makes it difficult to import food-grains, and to the suspicious and restless nature of the ignorant aborigines, who shun relief works as they would the plague.

The danger of widespread famine is gradually being reduced, owing to the improvement in the material condition of the people, the growing demand for labour in the coal-mines, jute-mills, and other non-agricultural undertakings, the great improvement that has been made in communications, and especially the rapid growth of railways, which now tap nearly every District in the Province, and the construction of protective canals in the tracts where the danger of famine due to insufficient rainfall is greatest. In the whole Province it is estimated that an area of 74,500 square miles is liable to famine; and of this area 28,500 square miles are in the sub-province of Bihār, 27,000 in Chotā Nāgpur, 14,500 in Bengal proper, and 4,500 in Orissa. The population of this area is 29,000,000; and if all these tracts were simultaneously affected by severe famine, it might be necessary to provide relief for 2,000,000 persons.

The first great famine of which we have any trustworthy record is that which devastated the Province in 1769–70, when Bengal, though under British control, was still under native administration. Eastern Bengal alone escaped, and, except for the importation of a small quantity of rice from this favoured tract, it does not appear that any public measures for relief were taken. One-third of the population of Bengal is believed to have perished in this terrible catastrophe. The next really serious scarcity in Bengal was the memorable Orissa famine of 1865–7. The full extent of the crop failure consequent on the scanty rainfall of 1865 and the exhaustion of the local food supplies was not realized by the authorities in time; and when at last, in June, 1866, an effort was made to provide the starving people with food, the south-west monsoon prevented the ships, lying laden with grain in the port of Calcutta, from reaching the stricken people[1]. It is said that a quarter of the population died of starvation and of the diseases which resulted. This disaster, appalling as it was, had one good result—it led to a firm determination to prevent all similar occurrences in future, and from that time dates the earnest watchfulness which has never since been relaxed. At the next serious crop failure in 1874 scarcity prevailed chiefly in North Bihār and also, in a lesser degree, in South Bihār and North Bengal. On this occasion relief measures were undertaken in ample time, and all serious loss of life was prevented. The defect, if any, in the administration of this famine was that money was expended too

[1] The monsoon of 1866 was as heavy as that of the previous year had been light, and in low-lying tracts the rice was destroyed by floods. On this occasion ample relief was given.

lavishly, and the object in view might perhaps have been effected at a lower cost than the 6 crores actually spent.

In 1891 the early close of the monsoon and the absence of the cold-season rains caused much damage to the winter rice and *rabi* crops, and relief operations were necessary in parts of Muzaffarpur, Darbhangā, Monghyr, Bhāgalpur, Purnea, and Dinājpur*. The largest number on relief works on any one day was 83,000, and on gratuitous relief 4,700; the total cost of the operations was rather less than 5 lakhs.

The famine of 1896–7 was far more serious. The causes of the crop failure were a very unfavourable distribution of the rainfall early in 1896 and its entire absence after the early part of September. There had been a very poor harvest of winter rice in 1895, and in 1896 it was again this crop that suffered most. The brunt of the famine fell upon the Districts of Champāran, Muzaffarpur, Darbhangā, and Sāran, and especially upon the tracts near the Nepāl frontier, where the proportion of rice cultivation is highest. In the Chotā Nāgpur plateau, Palāmau, Hazāribāgh, Mānbhūm, and two tracts in the Santāl Parganas were seriously affected. Relief works were opened in November, 1896, and by the close of the year 45,000 persons were employed on them. In March, 1897, the distress deepened rapidly, and the numbers on relief rose steadily until May, when 402,000 persons were employed on famine works, and 426,000 were in receipt of gratuitous relief. As soon as the monsoon had fairly set in, the numbers quickly diminished, and during September and October relief operations were brought to a close. The total expenditure was nearly 110 lakhs, in addition to advances to cultivators aggregating nearly 3 lakhs, donations of nearly 20 lakhs from the Charitable Relief Fund, the outcome of voluntary subscriptions in India, England, and other countries, and private relief by *zamīndārs* and others. The measures adopted were most successful in saving life; and the vital statistics, which are confirmed by the results of the last Census, show that, except in the wilder parts of Chotā Nāgpur, the mortality was actually below the normal during the famine year[1]. The birth-rate was very little affected; it fell slightly in 1898, the year after the famine, but rose so much higher than usual in the following year, that the mean birth-rate of the two years taken together was considerably above the average for the decade.

In 1899 the monsoon was very capricious in parts of Chotā Nāgpur and Orissa. There was excessive rain in July, but exceptionally little in August and September. The crops were very poor throughout the area affected, but actual famine supervened only in about half of Rānchī and a small part of Palāmau District.

As already stated, the immediate control of the Province of Bengal

[1] This subject is fully discussed in the *Bengal Census Report* for 1901, paragraphs 181, 184, 186, 199, 202, and 397.

was vested in the Governor-General of India till 1854, when a Lieutenant-Governor was appointed. He has a staff of five secretaries—three for the ordinary civil administration and two for Public Works. The former are the Chief Secretary, who is in charge of the Revenue, Political, and Appointment departments, the General Secretary in the Judicial and General departments, and the Secretary in the Financial and Municipal departments. One of the Public Works Secretaries is concerned with irrigation, marine, and railways, and the other with roads and buildings. The Judicial department was formerly under the Chief Secretary, and revenue matters were dealt with by the General Secretary; but recently (1905) a redistribution of work has been introduced by which the Revenue department has been transferred to the Chief Secretary, and the Judicial department to the General Secretary. The branches of work now under the Chief Secretary include land revenue, surveys and settlements, agriculture, forests, mines, police, registration, and political matters; those under the Judicial and General Secretary include prisons, education, and emigration; and those under the Financial and Municipal Secretary include separate revenue, opium, local self-government, medical, and sanitation.

Administration.

The control of all matters connected with the collection of the revenue and the administration of the land is vested in the Board of Revenue, which was constituted by Regulation III of 1822. There are two members, one of whom deals with land revenue, surveys and settlements, land registration, the management of wards' estates, the collection of cesses, &c., and the other with miscellaneous revenue, including excise, opium, income-tax, salt, customs, and the like. Each member is vested with the full powers of the Board in respect of his own department, and can act for his colleague if the latter is absent.

For administrative purposes Bengal is divided into nine Divisions, each of which is superintended by a Commissioner. Of these, five—the Burdwān, Presidency, Rājshāhi*, Dacca*, and Chittagong* Divisions—lie within the limits of Bengal proper; two—Patna and Bhāgalpur—make up the sub-province of Bihār, while Orissa and Chotā Nāgpur each forms a separate Commissionership. The average area[1] of a Commissioner's Division is rather more than 17,000 square miles, and the average population is a little more than 8 millions. The Chotā Nāgpur Division with 27,000 square miles is the largest, while the most populous is the Patna Division with $15\frac{1}{2}$ millions, or about the population of the Bombay Presidency, excluding Sind. The Commissioner exercises a general control over the conduct of affairs within his Division. He is responsible for seeing that the local officers duly

[1] Bengal now consists of six Divisions, the average area being a little over 19,000 square miles.

perform the duties required of them, and that the orders issued by Government are carried into effect. He is addressed by the local officers when they are in need of instructions, and he refers to Government or to the Board of Revenue all questions which he is not competent to dispose of himself. He also assists Government and the Board with his advice when called upon to do so.

These Divisions are again subdivided into Districts, each under a District officer, known as the Magistrate and Collector in regulation, and the Deputy-Commissioner in non-regulation[1] tracts. Including Angul and the Chittagong Hill Tracts*, but excluding Calcutta, there are in all forty-seven Districts. The two largest are Hazāribāgh and Rānchī, each extending over more than 7,000 square miles, or about half as large again as Wales, while the smallest is Howrah with only 510 square miles. The greatest number of inhabitants is found in Mymensingh*, whose population of 4,000,000 does not fall far short of that of the whole of Upper Burma. The average area[2] of a District exceeds 3,300 square miles, and the average population is more than 1½ millions.

These Districts again are usually partitioned into two or more subdivisions, the head-quarters subdivision being usually administered by the District Magistrate and each of the others by a Joint, Assistant, or Deputy-Magistrate subordinate to him. The total number of these subdivisions is 134. Their area is on the average[3] 1,177 square miles, and their population more than 559,000. The last and smallest unit of administration is the police circle or *thāna*. This is primarily the unit of police administration, and is usually in charge of a sub-inspector; but it has also come to be the acknowledged unit of territorial partition and is used in all administrative matters. The number of *thānas* in Bengal is 569, or about 12 per District; their average area is 277 square miles, and their population about 130,000 persons. The fiscal divisions of the Muhammadans, called *parganas*, formed the basis of the British revenue system; but they are wanting in compactness and, except for the purpose of land revenue payments, they are no longer of any practical importance.

The mainstay of the British administration is the District officer. He is the executive chief and administrator of the tract of country committed to him, and all other magisterial, police, and revenue officers therein employed are subordinate to him. As District Magistrate he is

[1] The non-regulation Districts are those in which some at least of the general laws and regulations are not in force. They form the 'Scheduled Districts' referred to in Act XIV of 1874 (see Vol. IV, p. 131).

[2] There are now thirty-three Districts, the average area being 3,500 square miles.

[3] There are now 100 subdivisions, the average area being 1,170 square miles and the average population 504,000.

the head of the department of criminal justice, which is charged with the trial of all but the more important charges; the latter are committed to the Court of Sessions, if inquiry goes to show that a prima facie case has been established. He is assisted in police matters by the District Superintendent of police, who is allowed a free hand in all purely administrative details. He is *ex-officio* chairman of the District board, and, as such, is in charge of all local public works, village sanitation, and education; he is assisted in these matters by the District Engineer and the Deputy-Inspector of schools. The municipalities of the District are sometimes presided over by official, and sometimes by non-official, chairmen, but in either case the District officer is expected to exercise a general supervision and control. He is also *ex-officio* Registrar of assurances. As Collector he is responsible for the realization of all kinds of revenue and taxes, for the management of Government estates, the assessment of the income-tax, the settlement of, and supervision over, excise and opium shops, &c., &c. The officers in charge of subdivisions exercise in their own jurisdictions, in subordination to the District officer, the powers of chief local magistrate; certain other powers are also delegated to them, but they do not usually collect land revenue, and in police matters they have only judicial and not executive control.

The Magistrate-Collector is assisted in the criminal and revenue administration of the District by a subordinate staff—a Joint-Magistrate, Deputy-Magistrate-Collectors, Assistant Magistrate-Collectors, and Sub-Deputy Magistrate-Collectors. Joint-Magistrates and Assistant Magistrates are junior officers of the Indian Civil Service; the other officials are recruited in India, and are members of the Provincial or the Subordinate civil service. All these officials are stationed either at District or at subdivisional head-quarters.

The village watch are paid from taxation assessed and collected in the villages by the *panchāyats*, who represent all that remains in Bengal of village autonomy. These *panchāyats* assist in the registration of vital statistics; and recently, in order to develop the system of village government, it has been decided that the presidents of the *panchāyats* are to be *ex-officio* visitors of primary schools aided from public funds or under public management, and also of pounds, public ferries, and public *sarais* in their Unions. In some Districts the presidents have also been granted certain magisterial powers. In Chotā Nāgpur village communities are still to be found, and some account of the system is given in the article on the MUNDĀ tribe.

The following are the Native States under the control of, or in political relations with, the Government of Bengal[1]:—

[1] In 1906 Sikkim and Bhutān were placed in direct relations with the Government of India.

Sikkim lies to the east of Nepāl and is bounded on the north and north-east by Tibet, on the east by Bhutān, and on the south by Darjeeling District. Early in the nineteenth century Sikkim was menaced by the Gurkhas, but its independence was secured by the treaty made with Nepāl in 1816, at which time it included the greater part of the present District of Darjeeling. In 1835 part of the hilly tract west of the Tīsta was ceded to the British Government, for the purpose of a sanitarium; and in 1850 the rest of it and the *tarai*, i.e. the Silīgurī *thāna*, were annexed on account of the Rājā's misbehaviour. For many years the State was left to manage its own affairs, but for some time prior to 1888 the Tibetans were found to be intriguing with the Mahārājā, who became more and more unfriendly. Affairs reached a climax in 1888, when an expedition was sent against the Tibetans, who had advanced into Sikkim and built a fort at Lingtu. The Sikkim State was occupied by British troops, and the Tibetans were driven off with ease. Since 1889 a Political officer has been stationed at Gangtok, to advise and assist the Mahārājā and his council. No precise rules have ever been laid down for the civil and criminal administration. All except very trivial cases are tried at Gangtok, either by the Mahārājā himself or by the Political officer, or by one or other of them in association with some member of the council. Appeals are heard by the Mahārājā, sitting with one or more members of the council, or by a committee of the council. Capital sentences passed by other authorities require the confirmation of the Mahārājā. The annual budget estimates of income and expenditure are, in the first instance, approved by the Mahārājā and the council, and are then submitted for the sanction of the Government by the Political officer.

Bhutān lies east of Sikkim and Darjeeling and north of Jalpaigurī* and of the Goālpāra, Kāmrūp, and Darrang Districts of Assam. It is internally independent, and there is no British Resident. Repeated outrages on British subjects by the hillmen, and the brutal treatment of a British envoy, led in 1864 to the hostilities already described, which resulted in the confiscation of the Duārs*, or submontane tracts, with the passes leading into the hills, in return for which an annual subsidy of Rs. 50,000 is paid at Buxa*. Since then relations with Bhutān have, on the whole, been of a friendly character; and under the ascendancy of the Tongsa Penlop, who, in the name of the Deb Rājā, controls all public affairs, the country enjoys the advantage of a settled government. The Political officer in Sikkim now conducts relations with Bhutān also.

The Feudatory State of Cooch Behār lies in the plains at the foot of the Bhutān hills, between the District of Rangpur* and the Jalpaigurī Duārs*. It is the only remnant of the great Koch kingdom founded by Biswa Singh in the early part of the sixteenth century,

which, under his son Nar Nārāyan, extended from the Mahānandā as far east as Central Assam. On Nar Nārāyan's death the kingdom was divided into two parts, and only the western portion remained in the possession of the ancestors of the present Mahārājā, who accepted the Muhammadans as their overlords. Their power gradually declined, and from time to time they were shorn of outlying parts of their dominions. Early in the eighteenth century the Bhotiās began to interfere, and by 1772 they had taken possession of the Rājā and of his capital. British aid was then sought, and, in consideration of the cession in perpetuity of half the revenues as then ascertained, the Bhotiās were driven out. The Mahārājā administers the State with the assistance of a council, of which he is the president, and which includes the Superintendent of the State, a British officer, who is vice-president, and two State officials—the Dīwān, who is revenue member, and the Civil and Sessions Judge, who is the judicial member. The executive control is vested in the Faujdāri Ahlkār, who corresponds to the Magistrate of a British District, and is subordinate to the Superintendent of the State. The Civil and Sessions Judge occupies much the same position as the corresponding officer in Bengal regulation Districts. Sentences of death require the confirmation of the Mahārājā. The budget is passed by the Mahārājā, and does not need the sanction of any other authority; but a general control over the affairs of the State is exercised by the Government of Bengal in the Political department.

Hill Tippera* lies to the south of Tippera District* and, like Cooch Behār, represents the last fragment of a once powerful kingdom, which formerly extended far into the plains of East Bengal and South Assam, and which long bade defiance to the Muhammadan Nawābs[1]. The Tippera kings were gradually deprived of their rule in the plains, and at the time of the acquisition of Bengal by the East India Company they exercised sovereign powers only in the hill tract now ruled by them. The Rājā, however, derives the greater part of his income from certain large estates in British territory which he holds as *zamīndār*. No formal treaty regulates the relations between the British Government and the Rājā of Hill Tippera*, but the succession of a new Rājā has always been subject to recognition and investiture by the British authorities. No control was exercised in respect of the internal administration until the year 1871, when an English officer was appointed to reside in the State as Political Agent, to protect British interests and advise the Rājā. This officer was subsequently withdrawn, and his duties now devolve on the Magistrate and Collector of Tippera District*, who is *ex-officio* Political Agent for Hill Tippera*. He is

[1] The *Rājmāla*, or Chronicle of the Kings of Tippera, has been analyzed by the Rev. J. Long, in a paper in the *Journal of the Asiatic Society of Bengal*, vol. xix, p. 533.

required to maintain a close watch over the affairs of the State, and it is to him that Government looks for information regarding all important occurrences there. All correspondence passes through him, and an annual report on the administration of the State is submitted to him for transmission to Government, through the Commissioner of the Chittagong Division*. The chief is himself the highest court of appeal in all civil and criminal matters, and sentences of death passed or confirmed by him are final.

The Orissa Tributary States[1] are 17 in number: namely, Athgarh, Tālcher, Mayūrbhanj, Nīlgiri, Keonjhar, Pāl Laharā, Dhenkānāl, Athmallik, Hindol, Narsinghpur, Barāmbā, Tigiriā, Khandparā, Nayāgarh, Ranpur, Daspallā, and Baud. These were acquired at the conquest of Orissa from the Marāthās in 1803; but as they had never been brought under complete control by the native governments, they were exempted from the operation of the general Regulations. Treaties were made with the several States on various dates between 1803 and 1829. It has been held that these States do not form part of British India, and the status, position, and power of the chiefs are defined in their *sanads*. The chiefs administer civil and criminal justice under the supervision of the Commissioner of the Orissa Division, who is *ex-officio* Superintendent of the Tributary States. All capital cases, and, except in special cases when a chief's powers have been increased, all heinous offences which require more than two years' imprisonment, are committed by the Assistants to the Superintendent of Tributary Mahāls for trial. One of these is a special native Assistant, who tries sessions cases from certain States and such other cases as the Superintendent may make over to him; the others are the Magistrates of Cuttack, Purī, and Balasore, and the Deputy-Commissioner of Angul, who are *ex-officio* Assistant Superintendents, but, with the exception of the two last mentioned, they do not often deal with criminal cases. The Assistant Superintendents have the power of District Magistrates and Sessions Judges, while the Superintendent has the powers of a Sessions Judge, and also, in respect of the proceedings of his subordinates, those of a High Court.

In Chotā Nāgpur there are seven Tributary and two Political States[2]. The former, including Chāng Bhakār*, Korea*, Jashpur*, Surgujā*, Udaipur*, Gāngpur, and Bonai, were tributaries of the Bhonsla dynasty

[1] Owing to the territorial change effected in October, 1905, the number of these States has been increased from 17 to 24, as two States, Gāngpur and Bonai, have been transferred from the Chotā Nāgpur States, and five more, namely, Bāmra, Rairākhol Sonpur, Patnā, and Kālāhandi, have been transferred from the Central Provinces.

[2] The Chotā Nāgpur States now include only the two Political States of Kharsāwān and Saraikelā. Of the other States, Gāngpur and Bonai have been transferred to the Orissa Tributary States, and the rest, namely, Chāng Bhakār, Koreā, Jashpur, Surgujā, and Udaipur, have been transferred to the Central Provinces.

of Nāgpur, and were ceded under the provisional agreement concluded with Mādhuji Bhonsla in 1818. The tribute was then fixed at a lower rate than that levied under the Marāthā government, and the settlements with the chiefs were made for a limited period. Fresh settlements for a nominal term of five years were made in 1827, but were not renewed until 1875, when they were made for a period of twenty years. The latter were renewed in 1889, when the tribute was fixed for a further period of twenty years, and the States having in the meantime been declared by the Secretary of State to be outside British India, the relations between them and the British Government were defined in their new *sanads*. The chiefs of these States are under the control of the Commissioner of Chotā Nāgpur. They are permitted to levy rents and certain other customary dues from their subjects. They are empowered to pass sentences of imprisonment up to five years and of fine to the extent of Rs. 200; but sentences of imprisonment for more than two years, or of fine exceeding Rs. 50, require the confirmation of the Commissioner. Heinous offences calling for heavier punishment are dealt with by the Deputy-Commissioners of Rānchī, Palāmau, and Singhbhūm, who exercise the powers of District Magistrates and Assistant Sessions Judges; the Commissioner and Judicial Commissioner in respect of such cases occupy the position of a Sessions Court, while the functions of a High Court are performed by the Government of Bengal.

The two Political States of Saraikelā and Kharsāwān lie in Singhbhūm, and control over them is exercised by the Commissioner through the Deputy-Commissioner of that District. They were claimed as feudatories by the Rājā of Porāhāt, whose territory was confiscated in 1857 for rebellion, but was in 1895 restored as a revenue-free *zamīndāri* to his son. It is believed that engagements were taken from the chiefs of these States, but they are not now forthcoming. They have now, however, received *sanads* similar to those described above, and their general position is much the same as that of the Rājās of the Tributary States, except that they do not pay tribute.

Legislation and justice.

The laws in force in Bengal consist of (1) Acts of Parliament relating to India; (2) certain still unrepealed Regulations of what was known as the Bengal Code, framed by the Executive Government before the creation of the legislative bodies; (3) Acts of the Governor-General's Legislative Council, now constituted under the Indian Councils Acts, 1861 and 1892; (4) Regulations for certain backward tracts issued by the Government of India under the Statute 33 Vict., c. 3; and lastly, (5) Acts of the Bengal Legislative Council. The Bengal Council came into existence on January 18, 1862, under a proclamation by the Governor-General-in-Council which extended the provisions of the Indian Councils Act,

1861, to the Bengal Division of the Presidency of Fort William[1]. The Council at first consisted of twelve members and a president, the Lieutenant-Governor of Bengal; but this number has been raised to twenty under the Indian Councils Act, 1892. By regulations made under this Act, it has been provided that of the twenty members not more than ten shall be officials; of the non-official members seven are nominated by the Lieutenant-Governor on the recommendation of certain local bodies and associations, and three at his own discretion.

The financial position of the Government of Bengal is explained in Council every year, and is there open to criticism, so far as it concerns the branches of revenue and expenditure that are under the control of the Government of Bengal. There is also a right of interpellation, which is limited to matters under the control of the Lieutenant-Governor, who may disallow questions which appear to him to be inconsistent with the public interest. No resolution can be proposed or division taken in connexion with the financial statement.

Among the legislative measures enacted since 1880, which specially affect this Province, the following deserve mention:—

Act of the Indian Council

The Bengal Tenancy Act (VIII of 1885).

Acts of the Bengal Council

The Bengal Drainage Act (VI of 1880).
The Cess Act (IX of 1880).
The Bengal Municipal Act (III of 1884).
The Bengal Local Self-Government Act (III of 1885).
The Calcutta Port Act (III of 1890).
The Public Demands Recovery Act (I of 1895).
The Calcutta Municipal Act (III of 1899).

In respect of civil justice the High Court at Calcutta (more properly designated the High Court of Judicature at Fort William in Bengal) is a court of record and equity, and is constituted under the Indian High Courts Act, 1861, as the supreme court in Bengal, exercising both original (including ecclesiastical, admiralty, and bankruptcy) and appellate jurisdiction. Below the High Court are the District and Additional Judges, the Small Cause Courts, the Subordinate Judges, who are sometimes also appointed to be Assistant Judges, and the Munsifs. Of these, the District, Additional, and Assistant Judges also exercise the powers of a criminal court; the others are purely civil judges, with the exception of a few Munsifs who are vested with magisterial powers.

The ordinary jurisdiction of a Munsif extends to all original suits cognizable by the civil courts in which the value of the subject-matter

[1] As regards legislation and the functions of the Provincial Legislative Councils, *see* Vol. IV, chap. v.

in dispute does not exceed Rs. 1,000, or, if specially extended, Rs. 2,000. The jurisdiction of a Subordinate Judge or District Judge extends to all original suits cognizable by the civil courts. It does not, however, include the powers of a Small Cause Court unless these have been specially conferred.

Appeals from Munsifs lie to the District Judge, or to the Subordinate Judge, if the High Court, with the sanction of the Local Government, so direct. Appeals from Subordinate Judges lie to the District Judge, except when the value of the subject-matter exceeds Rs. 5,000, in which case the appeal lies to the High Court. Appeals from the decrees and orders of District and Additional Judges lie to the High Court. An appeal may, subject to certain restrictions, be preferred from the High Court to the Privy Council in England, if the amount in dispute exceeds Rs. 10,000.

The powers of Courts of Small Causes are regulated by Act IX of 1887. Subject to certain exceptions, their jurisdiction extends to all suits of a civil nature of which the value does not exceed Rs. 500, a limit which may be increased to Rs. 1,000 by a special order of the Local Government. The Local Government is empowered, under Act XII of 1887, to invest Subordinate Judges and Munsifs with Small Cause Court jurisdiction for the trial of cases not exceeding Rs. 500 in value in the case of Subordinate Judges, and Rs. 100 in the case of Munsifs. In civil suits above a certain limit Calcutta is under the original jurisdiction of the High Court. The Small Cause Court of Calcutta has a purely local jurisdiction and is regulated by a special Act.

The principal statistics[1] relating to civil justice are embodied in the statement below: —

Class of suits.	Average for ten years ending 1890.	Average for ten years ending 1900.	1901.	1903.
Suits for money and movable property	255,630	297,137	284,017	298,686
Title and other suits . .	35,653	63,234	76,271	76,350
Rent suits	180,650	247,787	286,201	339,099
Total	471,933	608,158	646,489	714,135

Criminal justice is administered by magistrates (of whom there are three classes), the Courts of Sessions, and the High Court. Subject to the maximum punishment prescribed by law for each offence, a magistrate of the first class has power to sentence offenders to imprisonment,

[1] The corresponding number of suits instituted in 1903 in Bengal as now constituted was:—Suits for money and movable property, 161,173; title and other suits, 46,914; rent suits, 211,783; total, 419,870.

either rigorous or simple, up to two years, including solitary confinement, or to fine to the extent of Rs. 1,000, or to imprisonment and fine combined, or to whipping as a separate or an additional punishment. A magistrate of the second class can award imprisonment up to six months, fine up to Rs. 200, or both, and also whipping, if specially empowered in this behalf. A magistrate of the third class may imprison up to one month or fine up to Rs. 50, or he may combine these punishments. Benches consisting of two or more honorary magistrates, sitting together, have been appointed at almost all the District head-quarters, and at most of the subdivisional stations in Bengal. An honorary magistrate, if specially empowered, can also sit singly for the trial of cases. Honorary magistrates are ordinarily appointed for a term of three years, which is renewable. Their powers vary according to circumstances; but, generally speaking, benches of honorary magistrates are invested with second or third-class powers, and the majority of honorary magistrates sitting singly with the powers of a magistrate of the second class. The Magistrate of the District exercises first-class powers, and hears appeals against convictions by magistrates of the second and third classes. Such appeals may also be heard by any magistrate of the first class duly empowered by the Local Government. Magistrates of the first class and benches of magistrates of the second and third classes may try certain offences summarily when specially empowered to do so, but in such cases the sentence may not exceed three months' imprisonment.

In Calcutta criminal justice is administered by three stipendiary Presidency Magistrates a municipal magistrate appointed to try offences under the Municipal Act, and several benches of honorary magistrates.

The Courts of Sessions are presided over by a single Judge, who tries, with the aid of a jury or assessors, all cases committed to him by the magistracy, and decides, sitting alone, all appeals from convictions by magistrates of the first class, other than those in cases tried summarily, when the magistrate passes a sentence of imprisonment not exceeding three months, or fine not exceeding Rs. 200, or of whipping only, or in petty cases, when the sentence does not exceed one month's imprisonment or Rs. 50 fine. The Sessions Judge is also empowered to call for and examine the record of any proceeding before a subordinate court, for the purpose of satisfying himself as to the correctness and legality of any order passed. The powers of a Sessions Judge are limited only by the maximum punishment fixed for each offence in the Penal Code, but sentences of death are subject to confirmation by the High Court.

The High Court, on its original side, tries, by a single Judge with a jury, all cases committed to it by the Presidency Magistrates, and also

certain cases in which the accused are European British subjects, which may be committed for trial by magistrates in the interior. On its appellate side the High Court, by a bench of two or more Judges disposes of appeals in respect of convictions on trials before a Court of Sessions. It revises, upon reference from Sessions Judges or magistrates, the decisions of inferior courts, when in error upon points of law, deals with appeals which the Local Government may prefer against acquittals, and confirms, modifies, or annuls all sentences of death passed by Sessions Courts.

The table[1] below contains some of the more important statistics relating to criminal justice. During the last few years there has been a considerable increase in the number of offences against property, which is said to be due to the high price of food-grains.

	Average for ten years ending 1890.	Average for ten years ending 1900.	1901.	1903.	Percentage of convictions, 1903.
Number of persons tried:					
(*a*) For offences against person and property	89,832	95,346	99,834	98,852	38.8
(*b*) For other offences against the Indian Penal Code . .	36,569	37,249	33,313	33,742	61.2
(*c*) For offences against special and local laws . . .	98,302	130,487	111,425	121,052	84.3
Total	224,703	263,082	244,572	253,646	63.5

The registration of assurances is effected under the same law (Act III of 1877) as in other parts of British India. The cost is met by fees levied from persons presenting documents for registration or desiring copies of registered documents, according to a scale prescribed by Government. The Registration department is presided over by an Inspector-General. The District Magistrates, who are *ex-officio* Registrars, have full powers of inspection and control over all registration offices in their Districts, and are responsible for the proper conduct of the work. At the head-quarters of each District there is a salaried officer, known as the special sub-registrar, who deals with the documents

[1] The following table gives the corresponding figures for 1903 for Bengal as now constituted:—

	Number of persons tried.	Percentage of convictions.
(*a*) Offences against person and property . . .	68,916	40.3
(*b*) Other offences against the Indian Penal Code .	22,781	62.7
(*c*) Offences against special and local laws . . .	99,858	87.4
Total	191,555	67.5

presented for registration there, and assists the Registrar in the supervision of the proceedings of all other registration officers in the District. The number of the latter, who are called rural sub-registrars, varies according to local requirements. Formerly the special sub-registrars used to receive, in addition to their salaries, a commission on the documents registered by them, while the rural sub-registrars were remunerated only by fees on a sliding scale and were entitled to no pension or gratuity on retirement. A new scheme for the reorganization of the department has, however, recently been introduced. The system of payment of commission has been abolished, and both the special and rural sub-registrars have been graded on fixed salaries, the services of the latter, like the former, being made pensionable. In Calcutta the Registrar is a separate officer on a fixed salary. The chief statistics connected with registration operations are exhibited below. The number of documents registered in 1901 was more than double the average of the decade 1881–90, and the receipts exceeded those of the same decade by more than 50 per cent.

	1881-90.	1891-1900.	1901.	1903*.
Number of offices .	297	395	442	454
Number of documents registered . .	709,642	1,226,997	1,440,347	1,448,010
Annual receipts . Rs.	10,58,365	14,42,331	16,51,822	16,41,989
,, expenditure Rs.	5,62,043	8,18,406	8,83,927	8,90,418

* The corresponding figures for the present area of Bengal are: number of offices 272, and of documents registered 806,920; annual receipts Rs. 10,14,127, and expenditure Rs. 5,20,618. These figures include the portion of Sambalpur District not transferred to Bengal, separate statistics for which are not available.

Finance.

The present Provincial system of finance dates from 1871, when the financial management of the great spending departments of registration, jails, police, education, medical (except medical establishments), printing, and certain branches of public works expenditure was entrusted to the Government of Bengal, a fixed assignment of 117 lakhs being made to meet the charges. In 1877 the process of decentralization was continued by the transfer to the Local Government of other items of expenditure, together with the assignment, on progressive terms, of certain heads of revenue which it was thought would benefit by careful local management, including salt, stamps, excise, Provincial rates, and assessed taxes; an equilibrium being established between the income from these sources and the expenditure, as estimated for the first year of the contract, by means of a fixed money contribution. The receipts and expenditure on state railways and canals were also made over to the Local Government. It was anticipated that the interest charges on account of their cost of construction would exceed the net earnings, and the Local

Government was empowered to meet the deficiency by taxation to be raised by a special public works cess imposed under Act II (B.C.) of 1877. This settlement was made for a period of five years.

On its expiry, a new settlement was arranged, on very similar terms, but a proportion of the land revenue was given instead of the fixed money contribution required to produce an equilibrium between revenue and expenditure, and the public works cess, being no longer regarded as hypothecated for the payment of interest on the capital cost of Provincial public works, became merged in the general revenues of the Province. In the three quinquennial settlements which followed, no material advance in the system of decentralization was made; but the shares of the Provincial and Supreme Governments in the three principal heads of land revenue, stamps, and excise were redistributed, the Local Government obtaining in 1887 and 1892 one-quarter of the receipts from land revenue and excise, and three-quarters of the stamp revenue. Meanwhile, the management of all but a few minor lines of railway was gradually resumed by the Government of India, the last railway to be transferred from local control being the Eastern Bengal State Railway. This was in 1897; and in order to compensate for the loss of this progressive source of revenue, the Provincial share of the receipts from excise was raised from one-quarter to one-half. At the same time, the receipts and expenditure of the Salt department were reserved as wholly Imperial. The settlement of 1897 was, as usual, fixed originally for five years, but was extended by two years and did not expire until March 31, 1904.

The latest settlement marks a great advance in decentralization. The previous five-year settlements began with undue economy and ended with extravagance. The difficulty has been to devise a scheme which should be permanent, but which should not involve unfairness, or risk of unfairness after a lapse of years, to the Supreme Government or to the Local Government. For this problem a simple solution has been found. The present settlement is neither for five years nor is it permanent, but it will last for an indefinite period, and it is subject to revision if over a long period of years it is found to be unfair to one side or the other. Another principle laid down was that when heads of revenue or expenditure were divided, the Local Government should have the same share both of the revenue and of the expenditure under the same head. This has, however, been departed from in the case of land revenue, the expenditure on which has been made wholly Provincial, although the Local Government gets only one-quarter of the receipts. The Local Government gets the whole of the receipts under registration, one-half of those under stamps, seven-sixteenths of those under excise, and one-quarter of those under assessed taxes and forests, and bears the same proportion of expenditure in each case.

The result of this arrangement has been to reduce the annual net addition to the Provincial revenue by about one-fourth. Previous settlements involved a revision at the end of five years, which meant that the Local Government gave up part of its income to the Supreme Government. As such revisions are no longer to be made, it is obvious that the rate of expenditure must be fixed on a somewhat lower level. On the other hand, the Local Government will not benefit from the absence of revision until the expiry of five years, when the first revision would otherwise take place; and to make up for this, the Supreme Government made a grant to the Local Government of a lump sum of 50 lakhs, on the understanding that its expenditure was to be spread over several years. The net result of the changes under the present settlement is that the charges made over to Provincial management exceed the Provincialized receipts by 49 lakhs, and this deficit is made good annually by a fixed assignment under the Land Revenue head.

The general financial results, so far as the Province of Bengal is concerned, will be seen from Tables IX and X at the end of this article (pp. 353-4). The most noteworthy features are the expansion of the revenue under the headings excise, Provincial rates, registration, stamps and forests, and of the expenditure under superannuation, law and justice, police, contributions to Local funds, medical, and general administration. The growth of the excise revenue has been due to various causes, of which the more important are enhancement of the rates of duty levied, increase of population, greater prosperity of the people, which has enabled them to spend more on luxuries, improvement in the efficiency with which the department is administered, and not least the general rise of prices, which has affected excisable equally with other articles, and has swelled the receipts of the venders and the public revenue. The avowed policy of the Government has been to restrict the consumption of drugs and spirits by raising the duty charged on them. The steady expansion under Provincial rates, which are assessed on the annual value of land, is due mainly to periodic revaluations, and not to any change in the rate at which the cess is levied, which has for many years stood at the maximum allowed by law. The registration receipts, though they still show an upward tendency, increased most rapidly during the early years of the system of Provincial contracts, when registration offices were freely opened wherever there appeared to be a reasonable demand for them, with the result that many more documents were brought under registration than had been the custom in previous years. In 1887 it was decided that process-serving fees in revenue courts and copying fees should in future be levied in court-fee stamps and not in cash, and this led to a marked improvement in the stamp revenue. Apart from this, the development of this source of revenue is the outcome of growing prosperity and industrial and com-

mercial development, and that under forests is due to more efficient management coupled with an increasing demand for forest produce.

There has been a rise on account of salaries in various departments. Exchange compensation allowance has been granted to European officials, and in several departments there has been a reorganization of establishments and a general increase of pay. During the currency of the settlement of 1884-5, an additional yearly expenditure of $4\frac{3}{4}$ lakhs was incurred under 'judicial courts,' the result of an increase in the number of Subordinate Judges and Munsifs and of judicial establishments generally. About the same time the reorganization of the police department, in accordance with the recommendations of the Police Commission of 1891, led to an additional yearly expenditure of about 6 lakhs. In recent years the expenditure under medical has been swollen by charges incurred in connexion with the suppression of plague; but large sums have also been spent on works of general utility, such as the building of the Bhawānīpur Hospital, the remodelling of the General Hospital, and the extension of the Medical College in Calcutta. The increased contributions to Local funds were made partly to aid them in the arrangements they had to carry out for the prevention of plague or in the repairs of damages caused by the disastrous earthquake of 1897, and partly to assist them to provide feeder-roads for railways and improve communications generally. The ordinary income of the District boards is not capable of much expansion, and those bodies have to rely on subventions from Government to meet their growing needs, while the amount of aid which the latter is able to render varies with its own financial position [1].

The transfer of a number of Districts to Eastern Bengal and Assam has reduced the Provincial revenues to about 463 lakhs (estimate for 1906-7), to which is added a fixed contribution of 11 lakhs from Imperial funds.

Land revenue.

The current land revenue demand [2] for the year 1903-4 was more than 4 crores, or one-fifth of the principal heads of receipts in the Province. Four-fifths of the land revenue was permanently settled at the end of the eighteenth century; and since that date the *zamīndārs* and their tenants have shared between them the entire benefit of the enormous increase in the value of the produce of land which has taken place, including that of waste land since brought under cultivation. The result is that Bengal pays a lower

[1] The Provincial finances were seriously crippled in 1897 by an expenditure of $27\frac{1}{2}$ lakhs on famine relief, besides nearly 5 lakhs granted as compensation for the dearness of food to the lower-paid servants of Government, and a heavy expenditure on account of plague; it was thus necessary to withhold the much-needed aid to local bodies until equilibrium was restored by a special contribution of 17 lakhs from the Government of India.

[2] The demand in Bengal as now constituted was 284 lakhs, or nearly 3 crores.

revenue than any other Province, with the single exception of the Central Provinces, and the incidence of the land revenue per acre is only R. 0–13–2 as compared with Rs. 1–7–8 for India as a whole.

According to valuation returns furnished by *zamīndārs* and tenure-holders under the Cess Act, the total rental of the Province amounted in 1903–4 to 17·84 crores. Of this sum, the land revenue absorbs less than one quarter, and the remainder is shared by the *zamīndārs*, tenure-holders, revenue-free proprietors, and rent-free holders. These figures illustrate the huge financial sacrifice involved in the permanent settlement, for, after deducting the gross rental of revenue-free estates, rent-free holdings, and temporarily settled estates, the 'assets' of the permanently settled revenue-paying estates may be estimated at 1472 lakhs; and if the revenue had been periodically resettled, their assessment would probably now be not less than half the gross rental, i. e. 736 lakhs, or considerably more than double the actual figures of 323 lakhs.

The earliest assessment known to have been made in the Province was Todar Mal's great settlement of 1582, according to which the revenue of Bengal, Bihār, and Orissa amounted to 185 lakhs of rupees. The principle of Todar Mal's settlement was to ascertain the produce of each field, and to take as the revenue a share of it, estimated by different authorities at one-third or one-fourth. Bengal, however, being an outlying Province of the empire, was not measured, and Bihār was only partially surveyed; the assessment was therefore made on the basis of the reports of village accountants, and cannot be said to have borne any ascertained relation to the produce of the soil. Such as it was, however, it remained the basis of all subsequent Mughal settlements, and practically of the Decennial Settlement also.

Todar Mal's revenue was enhanced by the successive Mughal governors of Bengal, the increases being due partly to territorial acquisitions, partly to *abwābs* or proportionate additions to the original assessment of Todar Mal, and partly to the taxation of newly cultivated or improved lands. By 1765, when the British acquired the Dīwāni or financial administration of the Province, the nominal revenue had risen to 312 lakhs, though it is doubtful whether so large a sum was ever realized.

In 1790–1 the Decennial Settlement, which in 1793 was declared permanent, was carried out by British officers, and the total assessment, including that of two Districts in Assam, amounted to 268 lakhs of *sicca* rupees, or 286 lakhs of Company's rupees. It was made on the basis of preceding temporary settlements; and detailed inquiries regarding out-turn and rates of rent were expressly forbidden, as the Directors were anxious to avoid any investigations of an inquisitorial character. It is impossible, therefore, to determine the proportion which the

assessment bore either to the produce of the land, or to the rental received by the *zamīndārs*. It was believed at the time, however, that it amounted to 90 per cent. of the gross rental; and Sir John Shore estimated that, of the gross produce of the soil, the British Government received 45 per cent., the *zamīndārs* and their under-renters 15 per cent., and the cultivators 40 per cent.

The increase in the revenue of the permanently settled estates, from 286 lakhs in 1790–1 to 323 lakhs in 1903–4, was due to the resumption and assessment, during the first half of the nineteenth century, of a large number of estates which had been claimed as free of revenue. During the same period, however, the gross rental of these estates has risen from 318 to 1472 lakhs (assuming that the assessment of 1790 was equivalent to 90 per cent. of the gross rental); in other words, the Government share of the rental has fallen during this period from 90 to 24 per cent.

The operations of the Permanent Settlement did not include the unsettled part of CHITTAGONG*, the KOLHĀN estate in Singhbhūm and other tracts in Chotā Nāgpur, the DĀMAN-I-KOH in the Santāl Parganas, or the SUNDARBANS. These tracts are temporarily settled, as are also many alluvial islands and estates which have escheated, or been purchased from time to time by the Government at revenue sales. Tracts acquired since 1793 are also temporarily settled: namely, the sub-province of Orissa, acquired from the Marāthās in 1803; the Khurdā estate in Purī, confiscated in 1804; the District of Darjeeling, acquired partly from Sikkim in 1835 and 1850, and partly from Bhutān in 1864; the estates of Bānki and Angul, confiscated in 1839 and 1847; and the Western Duārs*, taken from Bhutān in 1864. Cāchār and the Assam Valley proper were acquired on various dates between 1826 and 1842; but in 1874 they and the permanently settled Districts of Sylhet and Goālpāra were separated from Bengal and formed into a separate administration. A brief review of the revenue history of the separate tracts is given below.

ORISSA was settled in 1845 at a revenue of 13·84 lakhs for a period of thirty years, which, however, was extended in consequence of the famine of 1866. In 1897 it was resettled for 21·05 lakhs, or 54 per cent. of the 'assets,' which amounted to 38·68 lakhs. The incidence of the new revenue is Rs. 1–1–10 per acre, and the period of settlement thirty years. The KHURDĀ estate was settled *ryotwāri* in 1875 for 2·68 lakhs. In 1897 the estate was resettled for fifteen years at a revenue of 3·46 lakhs, the increase being effected by an enhancement of 3 annas in the rupee. The incidence of rent per acre is Rs. 1–10–6.

The resettlement of the PALĀMAU estate in 1896 for a term of fifteen years resulted in the increase of the rental from Rs. 58,000 to Rs. 74,000, mainly on the ground of extension of cultivation; the average rate of

rent paid by settled ryots is Rs. 1-2-3 per acre. By the settlement of the DARJEELING *tarai* in 1898 the revenue was raised from Rs. 93,000 to Rs. 1,12,000, the assessment being made at rates varying from 4 annas to Rs. 2 per acre, and the term being fixed for twenty years. The Bānki estate in Cuttack District was resettled in 1891, the revenue being increased from Rs. 21,000 to Rs. 29,000, mainly on account of extensions of cultivation. The revenue of ANGUL, resettled in 1892, was increased from Rs. 46,000 to one lakh for the same reason, but the enhancement was introduced on the progressive system. The WESTERN DŪARS* were resettled in 1895, when the revenue was increased from 2·34 to 3·75 lakhs.

The temporarily settled estates in Chittagong* were settled in 1848 and in 1881, the aggregate revenue amounting to 3·85 lakhs. This was raised by the settlement of 1897 to 6 lakhs, the enhancement being due chiefly to extension of cultivation. The settlement was made partly with middlemen, who were allowed to retain, on the average, 41 per cent. of the 'assets,' and partly with the ryots direct. The average rate of rent paid by settled ryots is Rs. 5 per acre. The term of this settlement is thirty years.

The settlement of the Jaypur Government estate in Bogra District* in 1898 increased the revenue from Rs. 39,000 to Rs. 51,000, while the resettlement of a number of petty Government estates in the Sundarbans and elsewhere raised the demand from 4·20 to 5·41 lakhs.

It has already been stated that the revenue[1] of the permanently settled estates has risen from 286 to 323 lakhs. The revenue of the temporarily settled estates, which was *nil* in 1790, was in 1903-4 36 lakhs, and that of estates held direct by Government 46 lakhs, the total revenue of the three classes of estates taken together being 405 lakhs, compared with 347 lakhs in 1850, 379 lakhs in 1882, and 383 lakhs in 1892. The formation of the Province of Assam in 1874 deprived Bengal of a total land revenue of 30 lakhs, of which 4½ lakhs was due from the permanently settled estates of Sylhet and Goālpāra and the remainder from other areas.

The number of permanently settled estates is increasing very rapidly owing to partitions; this is especially the case in the Patna Division, where the number has almost trebled in thirty-eight years. Revenue-paying estates[2] in 1903-4 numbered 190,000, of which 176,000 are permanently and 10,500 temporarily settled, and the remainder are held

[1] In the present area of Bengal the current demand from permanently settled estates in the same year was 228¾ lakhs, from temporarily settled estates 29½ lakhs, and from estates held direct by Government 25⅝ lakhs.

[2] In the same year the number of revenue-paying estates in the present area of Bengal was 122,000, of which 110,000 were permanently and 10,000 temporarily settled, the remainder being held direct by Government.

direct by Government. Only 474 estates are large properties of over 20,000 acres, while 90 per cent. of the total number comprise less than 500 acres apiece.

In addition, 56,000 revenue-free estates and 119,000 rent-free holdings are assessed to road and public works cesses. At the time of the Permanent Settlement large areas were claimed revenue-free, and the authority to scrutinize such revenue-free grants, and, if invalid, to resume them, was specially reserved. They were divided into two classes, according as they had been granted by the Mughal emperor direct, or by the officials of the empire. The former were recognized as valid if the holder could prove that his grant was hereditary and that he was in possession. The latter were accepted as valid if dated prior to 1765; all grants of a subsequent date were resumed, but those given between 1765 and 1790 were assessed at privileged rates. All rent-free grants made by *zamīndārs* after 1790 were invalidated, and *zamīndārs* were authorized to nullify their own grants. Resumption proceedings were systematically undertaken by special Commissioners between the years 1830 and 1850, when some thousands of estates were added to the revenue-roll. The revenue-free estates are those which escaped resumption during these proceedings, and their number has been swelled by redemption of the land revenue, which is permitted in the case of very petty estates. The rent-free holdings are small areas which were assigned in former times by *zamīndārs* for religious or charitable purposes.

The land revenue is realized with remarkable punctuality. In 1903–4 no less than 97·8 per cent. of the current demand was realized within the year, the percentages in the three classes of permanently settled, temporarily settled, and directly managed estates being 98·9, 96·7, and 89·3 respectively. The revenue of estates belonging to the first two classes is realized under the Sale Law, which renders an estate liable to summary auction sale if the revenue is not paid in full by a fixed date. The revenue is payable by instalments which have been fixed for each District with reference to the date of the harvests, so that the instalments may be paid from the sale proceeds of the surplus produce. Arrears of rent in estates under direct management are recovered under the 'certificate procedure': in case of default the Collector certifies the amount due, and his certificate has the force and effect of a decree of court, and is executed accordingly.

In early Mughal times the only *zamīndārs* recognized were the territorial chiefs, who were left in possession on grounds of policy, on condition that they agreed to pay into the imperial treasury a certain proportion of the revenue collected from their villages; with this exception, the ordinary revenue system was to collect a share of the produce direct from the cultivators through their headmen. With the

decay of the Mughal power, however, the practice of farming the revenues grew up, and the *ex*-officials, court favourites, and men of local influence who undertook to farm the revenues gradually acquired the name and position of *zamīndārs*.

Originally the *zamīndārs* paid into the treasury the whole amount collected by them from the cultivators, less a definite allowance for maintenance, for collection charges and the up-keep of accounts, and for expenditure on charity. Gradually, however, the contributions to the treasury tended to become fixed, though always liable to enhancement, and meanwhile the *zamīndārs* exploited new sources of income over and above the rental upon which their revenue was calculated. They acquired private lands, realized rent from the cultivators of waste lands, imposed cesses or additions to the rent rates, and levied dues on fisheries and tolls on markets. By degrees also the *zamīndār's* office became hereditary, and the practice of obtaining a fresh grant or authority to succeed from the ruling power dropped into desuetude.

During the two centuries which followed Todar Mal's settlement, the farmer class of *zamīndārs* had acquired a position similar to that of the original landholders of the Province, and they were recognized as proprietors of the soil by Lord Cornwallis, who was 'persuaded that nothing could be so ruinous to the public interest as that the land should be retained as the property of Government.' This bias was shared by the Directors in 1792, and they were 'for establishing real, permanent, valuable rights in our Provinces, and for conferring such rights upon the *zamīndārs*.' The proprietary title of the *zamīndārs* was therefore not questioned at the time of the Permanent Settlement; and the Regulation which gave it the force of law prescribed that the *zamīndārs*, with whom the Decennial Settlement had been made, and their heirs and lawful successors, should be allowed to hold their estates at the same assessment for ever. The right of transfer of their estates was also conferred upon them. The present right of the *zamīndārs*, therefore, is freely heritable and alienable. It is, however, limited by the rights of their tenure-holders and ryots, and also by the Government prerogative to sell the estate in default of full payment of revenue on the due date.

There are two main classes of tenants—tenure-holders and ryots. It is often difficult to distinguish between the two classes in individual cases, but broadly a tenure is an intermediate interest between the *zamīndār* and the cultivating ryot. For practical purposes the essential difference between a tenure-holder and a ryot is that the former can sublet to an under-tenure-holder or to a ryot, while the sub-tenant of a ryot must necessarily hold the inferior status of an under-ryot. The distinction is of importance, because a sub-lease to an under-tenure-holder or ryot commands a bonus, which is not ordinarily the

case with a sub-lease to an under-ryot; but, on the other hand, the position of a settled ryot, who holds an occupancy right in all lands held or acquired by him in a village, is much coveted by the tenure-holder, whose rights are more restricted.

Tenures are distinguishable into four classes according to their origin. Many ancient tenures existed before the creation of the *zamīndāris* to which they are now subordinate. At the time of the Permanent Settlement, many of these tenures, known as *taluks*, were separated from the *zamīndāris*, and formed into distinct estates, paying revenue direct to Government. A large number of the smaller tenures, however, remained subordinate to the *zamīndārs*. A second class of tenures was created by the *zamīndārs*, with a view to protect their property from the ruin which involved so many estates immediately after the Permanent Settlement. The *patnī taluk*, which originated in Burdwān and has since spread over other parts of Bengal, is an estate within an estate, the rent being fixed in perpetuity and the tenure being saleable by the Collector at the *zamīndār's* instance for arrears, precisely in the same way as the parent estate. In some parts the process of sub-infeudation has proceeded much farther; the *patnīdār* has given his lands in permanent lease to *dar-patnīdārs*, and the *dar-patnīdārs* have done the same to *sī-patnīdārs*.

The reclaiming tenure is a bait which tempts the petty capitalist to spend his resources on the land. It is found all along the coast, where the low mud flats are being gradually raised by deposits of silt. The great rivers discharge into the Bay of Bengal an immense mass of sand, clay, and vegetable débris, which is again carried inland by the action of the tide. The coast-line is ever encroaching on the Bay, and as the deposits rise above water-level they become clothed with mangrove jungle, and if left to themselves would in time rise to high spring-tide level. But the impatience of the reclaimer forestalls this natural process, and soon after the surface emerges, an earthen embankment is thrown round it to exclude the salt tidal water, and the newly-formed islet is cultivated. The natural growth of the surface is thus arrested, and the deposit of silt is confined to the beds of the tidal channels, which gradually rise until they threaten to overwhelm the new reclamation. Perpetual leases at low rents are needed to persuade the capitalist to undertake the heavy initial and recurring expenditure required for the protection of such reclamations, and similar leases are often granted in the case of waste land when heavy expenditure has to be incurred in felling dense forests and undergrowth.

There is a fourth class of tenures, which is probably the most numerous of all, and which may be described as the land-jobbing tenure. This class is to be distinguished from the reclamation leases described above, though the nomenclature is generally the same. It is found in

enormous numbers in BACKERGUNGE* DISTRICT, where, probably owing to the depredations of Arakanese raiders in the seventeenth and eighteenth centuries, reclamation in the coast tract was arrested until the surface had risen above flood-level, and where comparatively small expenditure on embankments is required. The profits of agriculture are very great in this District, as plentiful crops are reaped which find a good market in Calcutta, and the rich soil, which is periodically fertilized by silt deposits from the overflow of the great rivers, requires no manure. The price of rice is also steadily rising, owing to the rapid growth of population, the extension of non-food-crops, such as jute, and the inflation of the currency caused by the export of jute from East Bengal. The profits of agriculture are therefore steadily increasing, while at the same time the practice of granting perpetual leases has stereotyped rent rates. The cultivator is not, however, allowed to absorb the whole of the increase in agricultural profits, but is compelled to disgorge a portion of it in the shape of *abwābs*, or cesses proportionate to his rental, and each new cess affords subsistence to a land-jobbing tenure-holder. The ryot, moreover, ekes out his income by subletting at rack-rates to under-ryots, and the rents paid by the latter are perpetually rising.

The system may best be illustrated by taking the simplest case of a *zamīndār* who has given a perpetual lease to a ryot. The ryot grows rich, and the *zamīndār* is in need of money; he offers the lease of a tenure of his holding to the ryot at a reduced rent, upon payment of a bonus equivalent to twenty years' purchase of the difference between the two rents. If the ryot refuses, a third person is offered the tenure, and he probably squeezes a cess out of the ryot. The same process is repeated shortly afterwards, either by the *zamīndār*, who may create a tenure between himself and the new tenure-holder, or by the latter, who creates an under-tenure between himself and the ryot. The creation of each new tenure is the occasion for the payment of a substantial bonus, for which the lessee recoups himself by extracting a cess from the man below him, which is ultimately passed on to the ryot.

Tenures of the classes described above are usually hereditary and held at fixed rates of rent. Temporary farming leases are common in Bihār and on Government estates; they are granted for a short term, either at a fixed rent or a percentage of the rental of the farm.

The status and privileges of all classes of tenants have been secured by the Bengal Tenancy Act of 1885. When Lord Cornwallis settled the revenue of the *zamīndārs* in perpetuity in 1793, he apparently intended to confer upon the ryots a similar immunity against enhancement of their rents, and power was reserved to legislate in future, if necessary, for the protection and welfare of the tenantry. The matter was, however, lost sight of for half a century. The terms at which the

Decennial Settlement had been concluded were severe at the time, while the proprietors were unaccustomed to the punctual payments necessary to protect their estates from sale. The consequence was that many proprietors defaulted and their estates were sold, and the attention of Government was for twenty years concentrated on efforts to realize the revenue with punctuality. The *zamīndārs* complained of the difficulty they experienced in collecting rents punctually from their tenants, and in 1799 special powers were given them to seize the person of a defaulting ryot and to distrain on his crops summarily. These powers were grossly abused and led to much oppression, but it was not until 1859 that a remedy was found. Act X of that year conferred on the ryots a right of occupancy in lands cultivated by them for twelve years, and protected occupancy ryots from enhancement of rent except on certain specified grounds; the landlord's power of distraint was also restricted. This Act failed, however, to give the needed protection to the tenantry; and after prolonged discussion a new Tenancy Act was passed in 1885, which provided that every ryot who has held any land in a village for twelve years acquires thereby a right of occupancy in all the land he may hold in the village. The result is that a proportion of all the ryots in the Province, varying from four-fifths to nine-tenths, have occupancy rights in their lands. In the case of such ryots, enhancement by contract is limited to an addition once in fifteen years of one-eighth to the previous rent, and a civil court can enhance the rent only on certain specified grounds, and even then only once in fifteen years. Whether such holdings are transferable or not depends on local custom. A small number of ryots hold at fixed rates of rent, and the remainder are without a right of occupancy. Even the latter, however, cannot be ejected except in execution of the decree of a competent court, nor can their rents be enhanced at shorter intervals than five years.

Produce rents are to be found all over the Province, and are especially common in South Bihār, where landlords maintain irrigation works or embankments. Sometimes the value of the standing crop is estimated, and the share to be paid as rent is fixed accordingly; sometimes the grain is divided on the threshing-floor. The landlord generally takes about half the crop, exclusive of the straw.

No attempt has yet been made to check the transfer of land by ryots, except in Chotā Nāgpur, the Santāl Parganas, Angul, and the Kālimpong Government estate, where transfers to non-agriculturists, or, in some cases, to any outsider, are forbidden, and where the prohibition is strictly enforced at the time of settlement of the rents.

In the Bengal Tenancy Act of 1885 power was taken by Government to order a survey and record-of-rights in any local area; such operations have since been completed in the four North Bihār Districts of Sāran, Champāran, Muzaffarpur, and Darbhangā, and are in progress in

portions of Monghyr, Bhāgalpur, and Purnea Districts, and in Rānchī and Backergunge*. The object of these operations is to frame an authoritative record of the status and rents of the tenantry, with a view either to protect them against arbitrary eviction and illegal enhancement, or to compose or avert agrarian disputes. Similar operations have been conducted on a large scale in estates under the administration of the Court of Wards, with a view to preparing correct rent-rolls, and also in a number of estates upon the application of the proprietors.

The land revenue in Bengal is so small a fraction of the produce that it can have no bearing on the ability of the people to withstand famine. The produce may be valued at not less than Rs. 20 per acre, or 9796 lakhs for the Province as a whole, of which the total cropped area was estimated at 76,454 square miles in 1903–4. The rental of 1670 lakhs, therefore, represents 17 per cent., and the revenue of 400 lakhs only about 4 per cent. of the value of the produce. Remissions and suspensions of the revenue are very rarely granted in permanently settled estates, as the incidence of the revenue is so light that they are unnecessary. In temporarily settled and Government estates, however, remissions are allowed for special reasons, among which are deterioration of land, drought, and damage caused by floods and cyclones.

Miscellaneous revenue.

The production of opium in Bengal and the United Provinces is a Government monopoly, and the administration of the operations is in the hands of the Board of Revenue, Bengal, under whom are two Agents, stationed at Patna and Ghāzīpur respectively, and a subordinate staff of sub-deputy and assistant opium agents. The poppy is grown in ten Districts in Bengal and in thirty-six Districts of the United Provinces. The total area under cultivation (deducting failures) averaged 823 square miles during the ten years ending 1890, and 820 square miles in the subsequent decade. In 1900–1 it was 948 square miles, of which 345 square miles were in Bengal and 603 square miles in the United Provinces; and in 1903–4 it was 1,004 square miles, of which 324 square miles were in Bengal and 680 in the United Provinces. The process of manufacture is carried on in factories at the head-quarters of each Agency. The legal position is governed by the provisions of Acts XIII of 1857 and I of 1878.

The cultivation of the poppy is permitted only under annual licences granted for the purpose; sowing is restricted to the area applied for, and the whole of the produce must be sold to Government at a fixed rate, which for some years has been Rs. 6 per seer (2 lb.) of 70° consistency. Advances free of interest are given to the cultivators, whose accounts are adjusted after the opium has been taken over. Application for a licence is entirely optional.

The opium is manufactured in two forms: 'provision opium' for

export principally to China and the Straits Settlements, and 'excise opium' for consumption in India. The difference lies in the consistency and size of the cakes and the method of packing. 'Provision opium' is dispatched to the warehouses of the Board of Revenue in Calcutta, where it is sold at public auction, the number of chests to be offered for sale during the year being fixed by the Government of India, with reference to the quantity manufactured and the stock held in reserve. During the period 1881-90, a yearly average of 54,664 chests (each containing 40 cakes weighing about 140 lb.) was exported from Calcutta, and 43,164 chests during the succeeding decade. In 1900-1 47,950 chests, and in 1903-4 48,218 chests, were shipped, and the normal sale standard is now 48,000 chests per annum. The gross value of the chests sold averaged about 6½ crores between the years 1881 and 1890, and a little over 5 crores between 1891 and 1900. In 1900-1 it amounted to about 6⅓ crores, and in 1903-4 to just over 7 crores. 'Excise opium' is supplied to all Government treasuries for sale to licensed vendors. The price, which is fixed by Government, varies in different parts of the Province. At the present time it ranges from Rs. 28 to Rs. 31 per seer in Bengal proper; in Orissa it is Rs. 33; and in the Patna Division, where the danger of smuggling is greatest, it is only Rs. 17 per seer. With the retail sale of the drug to the actual consumers the Opium department has no concern; this is under the control of the Commissioner of Excise, as described farther on.

The net yearly revenue of the Opium department averaged 4¼ crores from 1881 to 1890; from 1891 to 1900 it was a little over 3 crores; in 1901 it amounted to about 4 crores, and in 1903 to 3·98 crores. The revenue varies from year to year according to the quantity of opium available for sale and the price realized for it. A standard quantity to be produced yearly is periodically fixed by Government, and the maximum area to be cultivated is calculated accordingly; but the area actually under poppy depends also on the willingness of the cultivator to grow it. The crop, though on the average a remunerative one, is very sensitive to climatic conditions, and a series of unfavourable years may create a prejudice against it. The amount realized by the sale of 'provision opium' depends partly on the quantity offered for sale, and partly on the nature of the season in China and the area under cultivation there. Differences in the rate of exchange between the two countries may have a disturbing influence upon the market, and the interest charged by the Calcutta banks also affects it.

The administration of excise, including the retail sale of opium, is vested in the Excise Commissioner, subject to the general control of the Board of Revenue. In the Districts the Collector is in charge, assisted by a Deputy-Collector (who is, in the more important Districts, a special officer) with a clerical, preventive, and, where Government

distilleries have been established, a distillery staff. The revenue is derived from imported liquors; country spirits, including country rum; fermented liquors made in India, including beer, *tāri* (fermented date juice), and *pachwai* (rice beer); hemp drugs, including *gānja*, *siddhi* or *bhang*, *charas*, and *mājum*; opium; and cocaine. The revenue is derived from (*a*) the duty levied on excisable articles passing into consumption, other than imported liquors the duty on which is credited to the Customs revenue, (*b*) the fees paid for a licence to manufacture and sell excisable articles, and (*c*) the fees paid on spirits manufactured in distilleries.

The following figures show the excise revenue[1] for the decades 1881–90 and 1891–1900 (averages), and for the years 1900–1 and 1903–4, in thousands of rupees:—

Heads of revenue.	1881-90.	1891-1900.	1900-1.	1903-4.
	Rs.	Rs.	Rs.	Rs.
Imported liquors	2,07	2,67	3,30	3,77
Country spirits manufactured after the native method	48,05	55,36	67,67	79,03
Country spirits, including country rum, manufactured after the English method, and beer	1,01	3,58	3,48	2,34
Tāri	7,00	9,89	10,39	10,96
Pachwai	1,82	3,83	5,34	5,98
Hemp drugs	20,26	26,26	30,20	34,55
Opium	19,85	23,09	25,91	25,92
Miscellaneous	7	14	19	41
Total excise revenue	1,00,13	1,24,82	1,46,48	1,62,96
Customs revenue from imported liquors	14,20	18,49	20,99	22,32

The causes leading to this rapid expansion have been indicated in the section on Finance. The incidence of excise revenue per head of the population was $2\frac{1}{4}$ annas in 1881–2, $2\frac{1}{2}$ annas in 1891–2, $3\frac{1}{6}$ annas in 1901–2, and $3\frac{1}{2}$ annas in 1903–4.

Country spirits and *tāri* are preferred in the dry Districts, such as those of Bihār and Chotā Nāgpur, with pronounced hot and cold seasons, and containing a large non-Muhammadan population. The aboriginal tribes brew *pachwai* at home, but consume the stronger spirit when it is within their means. The consumption of *gānja* is very general; it is greatest in wet and malarious Districts, such as those of Bengal proper and part of the Bhāgalpur Division. Opium is also in general use, but chiefly in the Districts lying on the seaboard and where the Muhammadan population is large.

The consumption of excisable articles is closely watched, and

[1] The excise revenue in Bengal as now constituted was Rs. 1,42,13,000 in 1904–5.

facilities for obtaining them are allowed only in order to meet an ascertained demand, or for the prevention of illicit practices. The number of licences issued is carefully considered, and the sites for licensed shops are selected with due regard to local feeling. The fees for a licence are ordinarily settled by auction, subject to a minimum which is fixed with reference to the estimated sales at each shop and the average fees previously paid for the licence. Educated opinion is opposed to the use of stimulants, and the general feeling of the people condemns over-indulgence. The consumption has, however, increased rapidly among the educated classes, who, next to Europeans, are the chief purchasers of imported liquors, and especially of the cheap brands manufactured from German spirit and sold, under English names, in bottles with attractive labels. These brands compete with the country-made spirit in cheapness, and are believed to be stronger.

The revenue on salt is levied mainly in the shape of an import duty—formerly Rs. $2\frac{1}{2}$, reduced in 1903 to Rs. 2, in 1905 to Rs. 1-8, and in 1907 to R. 1 per maund of 82 lb.—which is realized by the Customs authorities. There are also certain miscellaneous receipts, of which the most important are the rents paid for the storage of salt in Government warehouses and the fees realized upon the passes granted for its removal. The Bengal coast is unsuitable for the local manufacture of salt, by reason of the dampness of the climate and the large amount of fresh water discharged into the Bay of Bengal by the Ganges and the Brahmaputra, and the manufacture of salt in the Province has been discontinued since 1898 and is now forbidden. The quantity annually manufactured by Government and private individuals during the ten years 1881–90 averaged about 280,000 maunds, and during the succeeding seven years about 120,000 maunds. The quantity imported yearly from within India and from other countries during the periods 1881–90 and 1891–1900 averaged $9\frac{1}{2}$ and 10 million maunds respectively. In 1900–1 it was about 9 million maunds, and in 1901–2 about $13\frac{1}{2}$ million maunds. The average consumption of salt per head of the population during each of the four years 1880–1, 1890–1, 1900–1, and 1903–4 was $5\frac{3}{16}$, $5\frac{1}{2}$, $5\frac{3}{8}$, and $5\frac{5}{8}$ seers respectively. The gross revenue from this source, exclusive of miscellaneous receipts, averaged 2·18 crores between the years 1881 and 1890, and 2·59 crores between 1891 and 1900, while in 1900–1 it amounted to 2·66 crores, and in 1903–4 to 2·27 crores.

The course of the salt trade has been greatly influenced by the substitution of steamships for sailing vessels and by the improvement in the means of communication in India. The former circumstance has given a great impetus to the practice of bonding salt, as steamers are unable to waste time in port. The opening of the East Coast Railway encouraged the importation of Madras salt into Orissa, and it

is now acquiring a firm hold of the markets there. At the present time the United Kingdom supplies about half the salt imported by sea, Aden and the Red Sea ports about 31 per cent., Germany approximately 10 per cent., while the remainder comes from the Persian Gulf, Port Said, and Madagascar. The quantity supplied from the United Kingdom is declining, owing to competition from other sources, and especially from the Red Sea ports. Preventive establishments are employed to cope with the illicit manufacture of salt along the coast and in other saliferous areas, and the possession and transport of salt are regulated by a system of passes.

The stamp revenue is collected under the Indian Stamp Act (II of 1899) and the Court Fees Act (VII of 1870). Stamps are broadly divided into 'non-judicial,' or revenue stamps, and 'court-fee,' or judicial stamps. Of non-judicial stamps there are two main classes, adhesive and impressed. Adhesive stamps include share transfer stamps, foreign bill stamps, and stamps for use by notaries, advocates, *vakīls*, and attorneys. Impressed stamps comprise impressed stamp paper and impressed labels, and forms of different descriptions, such as skeleton cheques, &c. For the distribution of stamps a central dépôt is maintained at Calcutta, while every treasury is a local, and every sub-treasury a branch dépôt. There are, in addition, numerous licensed vendors, who are allowed a discount on the stamps purchased by them. The net revenue derived from the sale of judicial stamps[1] during the decades 1881–90 and 1891–1900 averaged 93 and 117 lakhs respectively; in 1900–1 it was 131 lakhs, and in 1903–4 it was 143 lakhs. The revenue from non-judicial stamps[1] during the same four periods amounted to 34, 44, 49, and 50 lakhs respectively.

The growth of litigation mainly accounts for the progressive increase in the sale of judicial stamps, but probate duty also shows a tendency to yield larger receipts. The revenue derived from non-judicial stamps develops along with the normal progress of the country, but in particular years the state of the harvests causes fluctuations.

Income-tax is levied on non-agricultural incomes under the provisions of Act II of 1886 as recently amended (*see* Vol. IV, chap. viii). The minimum income assessable under the original Act was Rs. 500, but this has now been raised to Rs. 1,000 per annum, upon which, and up to Rs. 2,000 a year, the tax is levied at the rate of 4 pies in the rupee. On larger incomes the rate is 5 pies in the rupee.

The assessment and collection of the tax outside Calcutta are subject to the control of the Collector, under the supervision of the Commissioner and the Board of Revenue; but the actual administration of the Act is in the hands of a Deputy-Collector, who is usually

[1] In 1904–5 the net receipts from the sale of judicial stamps in Bengal as now constituted was 94·38 lakhs, and from the sale of non-judicial stamps 34·49 lakhs.

in charge of excise duties also. For Calcutta, which, with the town of Howrah, constitutes a separate District for income-tax purposes, there is a special Collector of Income-tax. Since the enhancement of the minimum taxable income, assessors are appointed to Divisions, and the work of assessment in the different Districts in each Division is distributed among them by the Commissioner in consultation with the District officers. The rates of pay of the assessors are Rs. 100, Rs. 90, and Rs. 80 a month. In Calcutta seven assessors are employed, who belong to two grades with pay of Rs. 250 and Rs. 200 respectively.

The net revenue derived from the tax on incomes during the five years 1886–90 averaged 37·5 lakhs. During the next ten years it averaged 45·7 lakhs, and in 1901 it amounted to 54·4 lakhs; in 1902–3 it was 56·5 lakhs, but in 1903–4 (after the increase of the minimum assessable income) it fell to 47·7 lakhs[1]. The incidence of the tax per head of the population during the same five periods averaged 0·06, 0·06, 0·07, 0·08, and 0·06 of a rupee, while the average number of assessees was 109,000, 119,000, 134,000, 135,000, and 56,000, or 1·6, 1·7, 1·8, 1·8, and 0·8 per 1,000 of the population respectively.

The work of the Calcutta Custom House is directed by a Collector of Customs, who is subject to the control of the Board of Revenue as the chief Customs authority, and is assisted by five Assistant Collectors. The examination of goods and their valuation for customs purposes are entrusted to a staff of eighteen appraisers, while the guarding of vessels and patrolling of the port in order to prevent smuggling, the control over the discharge of cargo, and the loading or unloading of salt at the *golās* (warehouses) rest with a special establishment of about 205 officers under the orders of the Superintendent of the Preventive Service and Salt department.

Information as to the tariff is given in Vol. IV, chap. viii, and it will suffice to state here that the ordinary import duty is 5 per cent., either *ad valorem* or on a tariff valuation. The most important exceptions are cotton piece-goods, assessed at 3½ per cent.; iron and steel, at 1 per cent.; petroleum below a certain flashing point, at 1 anna per imperial gallon; and machinery, railway material, and raw cotton, which are free. The duty on salt has varied; it was reduced from Rs. 2–14 to Rs. 2 per maund in 1882, but was again raised to Rs. 2–8 per maund in 1888, at which figure it continued till March, 1903, when it was again reduced to Rs. 2 per maund. It has recently (1907) been still further reduced to R. 1 per maund. A duty was first imposed on kerosene oil in 1888; and in 1899 countervailing duties were placed upon bounty-fed sugar.

The total customs revenue in Bengal averaged 247 lakhs during the period 1881–90, and 352 lakhs during the following decade. In

[1] The revenue from the income-tax in Bengal as now constituted was 41·83 lakhs in 1904–5.

1900–1 it amounted to 427 lakhs[1], and in 1903–4 to 384 lakhs. Excluding the receipts from salt and rice, the import duties in 1903–4 yielded 150 lakhs, to which cotton-goods contributed 51 lakhs, mineral oils 18 lakhs, metals 16 lakhs, and sugar (inclusive of countervailing duties) 9 lakhs. The only export duty is that on rice, which realized 18 lakhs in 1880–1, nearly 22 lakhs in 1900–1, and 19 lakhs in 1903–4.

Local and municipal.

In discussing the rise and present position of local institutions it is necessary to distinguish between town and country. In towns the need for proper roads, water-supply, and sanitary arrangements is far greater than in rural tracts, while, as their area is limited, it is comparatively easy for the representatives of the people to deal with these matters. The inhabitants of towns are also more advanced and better able to express their requirements than those of the scattered villages in the interior. It follows that the first steps in the direction of delegating to the natives of the country a share in the administration of public affairs were taken in towns, and in this, as in other matters, Calcutta naturally led the way.

Outside towns the rise of local self-government in Bengal dates from 1870, when District committees were created for the administration of the funds set apart for the construction, repair, and maintenance of roads, bridges, &c., which were derived mainly from the road cess. They consisted of the District Magistrate and other officers of the District staff, and of a certain number of payers of road cess appointed on the nomination of the local authorities. District school committees, consisting partly of officials and partly of private persons nominated as above, were at the same time formed for the control of education, and were made responsible for the supervision of all Government schools and the allotment of the sums set aside for grants-in-aid of private schools. Owing partly to the constitution of the committees, and partly to the fact that the powers delegated to them were very circumscribed, these measures were not attended with much success, and local self-government in the Districts was for some years little more than a name. At the instance of Lord Mayo, a fresh scheme was drawn up by Sir Ashley Eden, the Lieutenant-Governor, with the threefold object of relieving the Provincial authorities of some portion of the ever-growing details of the work of administration, of reconciling the public to the burden of local taxation, and of conferring on the people or their representatives greater powers of control over expenditure on objects of local importance. This scheme was the foundation of the Local Self-Government Act, III (B.C.) of 1885, which is still in force.

[1] These figures exclude collections in inland treasuries on bonded salt. The receipts on their account averaged 8 lakhs a year between 1895 and 1900, and in 1900–1 and in 1903–4 amounted to 26 lakhs.

This Act provides for the constitution of three classes of local authorities—the District board with jurisdiction over the whole District, a local board for each subdivision, and Union committees for smaller areas where circumstances may indicate the desirability of appointing them. The District board is the principal local authority, and the local boards and Union committees work in subordination to it, exercising such powers and administering such funds as the District board may direct. District boards have been constituted throughout Bengal, save only in Darjeeling and a few remote tracts; local boards have also been formed in most Districts. On March 31, 1904, there were 42 District boards and 104 local boards in Bengal[1]. The system of village Unions has not yet been fully developed, and only 58 have been created, chiefly in the Burdwān and Presidency Divisions. Half the members of District boards are appointed by Government and half are elected by local boards; where there are no local boards, the District board consists entirely of members appointed by Government. On March 31, 1904, the 42 District boards contained in all 846 members[2]. Of these 221 were members *ex officio*, 292 were appointed by Government, and 333 were elected by the local boards. The Collector of the District has in all cases been appointed chairman. The area dealt with by each board is so large, and the interests of different parts of it are so divergent, that no non-official member would be able to perform effectively the executive duties of the post or to weigh impartially the conflicting claims of different localities. The members of local boards are appointed partly by nomination and partly by election, one or more members being elected for each *thāna*. All residents who possess a small property qualification are entitled to vote, but the number who actually do vote is usually very small. Similar rules have been framed for the constitution of Union committees.

The District boards have full control over all roads and bridges, save on a few main lines of communication of more than local importance. They are also entrusted with the maintenance and supervision of all primary and middle schools, the management of pounds and most of the public ferries, the control over and upkeep of dispensaries, the provision of a proper water-supply, village sanitation, &c. When scarcity occurs, it becomes their duty to subordinate all other objects to the special consideration of saving life, and they are expected to devote their whole available resources to affording relief. If the scarcity is not serious or widespread, the District board is left to cope with it, with

[1] The number of District boards in Bengal after the recent territorial changes was 29 and of local boards 76.

[2] The number of members of District boards in Bengal as now constituted was 580 in 1904, of whom 148 were members *ex officio*, 188 were appointed by Government, and 244 were elected.

such financial assistance as may seem to be needed; but when famine supervenes, the management of relief operations is taken over by Government. The immediate administration of the roads and buildings under the control of the District board is vested in the District Engineer, who is appointed and paid by the board, while that of the schools subordinate to it lies with the Deputy-Inspector of schools, an officer of the Educational department, who, in respect of these schools, works in subordination to the board.

The chief functions hitherto delegated to local boards are the care and maintenance of village roads, the management of pounds, and the charge of ferries. In a large number of cases they have also been entrusted with powers of varying extent with regard to primary education, and in a few cases with the control of dispensaries and the maintenance of District roads. As at present constituted, local boards have not been a very great success, and several of those at the head-quarters of Districts have recently been abolished.

The Union committees exercise control over pounds, village roads, sanitation, and water-supply. In regard to primary schools, their authority is restricted to inspection. Their income consists of the receipts from pounds situated within the Union, a lump sum granted by the District board for village roads, sanitation, and water-supply, and funds raised under section 118 of the Act. In some Districts these committees are reported to have done useful work within the narrow limits of their powers and resources.

Nearly 53 per cent. of the income of District boards is derived from the road cess levied on land, under the provisions of Act IX (B.C.) of 1880. A considerable sum is also derived from pounds and ferries and special grants made by Government. The main heads of expenditure are public works (59 per cent. of the total), education (22 per cent.), medical (5 per cent.), and general administration (4 per cent.). Statistics of income and expenditure are given in Table XI at the end of this article (p. 355). The duties of the boards tend to outgrow their income, and it is becoming increasingly difficult for them to spare money for the construction of feeder-roads to railways and other new works. Government has therefore recently helped to restore the equilibrium by assigning to the Commissioner of each Division a considerable sum to be allotted by him to the boards which stand most in need of assistance. The total of the special grants thus made amounted to 15 lakhs on April 1, 1904; and in 1905 a further grant of 12½ lakhs was made from Imperial funds to the District boards.

The history of municipal government in CALCUTTA is dealt with in the article on that city. The first enactment having for its object the creation of local bodies elsewhere was Act XXVI of 1850, which authorized the Lieutenant-Governor, on the application of the inhabitants of

any place of public resort or residence, to extend the Act to it and to appoint commissioners who, by the levy of a rate on houses or of town duties or otherwise, were to make better provision for purposes of public health or convenience. The Darjeeling municipality was constituted in 1850 under the provisions of this Act; but otherwise very little advantage was taken of it or of a subsequent Act (XX of 1856), the main object of which was to make better provision for the appointment of police *chaukīdārs* in towns, but which also provided that any surplus funds raised in a town, primarily for the above purpose, might be applied to cleansing or lighting or otherwise improving it. These two Acts were superseded in the larger towns by Act VI of 1868, which repeated their provisions in a modified form. The first real attempt at inaugurating municipal government was made in 1864, when the District Municipal Improvement Act was passed. This Act authorized the Lieutenant-Governor to appoint municipal commissioners for any town to which it was extended, with power to levy certain rates and taxes to meet the cost of conservancy, general improvement, and police.

The enactments were consolidated and amended by Act V (B.C.) of 1876, in which year there were in existence 24 municipalities under Act III of 1864 and 2 under Act XXVI of 1850, 70 'unions' under Act XX of 1856, and 95 'towns' under Act VI of 1868. The new Act recognized four classes of municipal institutions: namely, first and second-class municipalities, 'unions,' and stations. The elective principle was allowed in the case of municipalities, provided that one-third of the ratepayers desired it; but this condition was fulfilled in respect of only three municipalities. The Magistrate of the District or of the subdivision, as the case might be, was as a rule *ex-officio* chairman of all municipalities situated within his jurisdiction; power was given to the Lieutenant-Governor to appoint other persons, but it was exercised only in a single case.

This Act was, in its turn, superseded by Act III (B.C.) of 1884, which is still in operation, and which provides for the election of a majority of the commissioners and gives to them a far greater degree of independence. By this Act the distinction between first and second-class municipalities was abolished, and the other corporate bodies known as 'unions' and 'stations' were extinguished. Under its provisions the ratepayers of 125 municipalities, out of a total of 161, have obtained the privilege of electing two-thirds of their commissioners, and in 109 cases the latter have been empowered to choose their own chairman. In the remaining towns, which are either very backward or are divided by contending interests or strong party feeling, Government has reserved to itself the power of appointing the commissioners or the chairman, but in only twenty-seven municipalities does it appoint both. Except in Howrah, the municipalities have been relieved of the charges on

account of the local police, over which they exercised practically no control, on the understanding that the funds thus set free must be spent on works of general utility and may on no account be devoted to the reduction of taxation. The charges previously borne by Government on account of dispensaries and hospitals within municipal limits have at the same time been transferred to these bodies. The municipal law has now been extended to all places of an urban character, where alone it can be satisfactorily worked.

Act III of 1884 has been amended by Acts IV (B.C.) of 1894 and II (B.C.) of 1896. By these enactments the elective principle has been further developed, and the powers and responsibilities of the municipal commissioners have been enhanced. The scope of municipal expenditure has been extended, and now includes the establishment and maintenance of veterinary institutions and the training of the requisite staff, the improvement of breeds of cattle, the training and employment of female medical practitioners, the promotion of physical culture, and the establishment and maintenance of free libraries. The commissioners may order a survey and organize a fire brigade; they may control the water-supply when its purity is suspected, even to the extent of interference with private rights; larger powers of precaution are conferred in the case of ruined and dangerous houses and other erections, as well as increased powers for the general regulation of new buildings.

Out of the total number of municipalities[1] in existence on March 31, 1904 (excluding Calcutta), only two, Howrah and Patna, contained over 100,000 inhabitants; 98 contained from 10,000 to 100,000, and in 61 there were less than 10,000 inhabitants. The total population within municipal limits was 2,871,249, and the incidence of taxation per head of the population was Rs. 1-3-11. The total number of municipal commissioners was 2,236, of whom 1,160 were elected and 1,076 appointed; 336 were official members, and 1,900 non-official; 261 were Europeans and 1,975 natives. The land holding classes and members of the legal profession provide about 50 per cent. of the commissioners, and of the remainder the majority are Government servants or traders. Statistics of municipal finance are given in Table XII at the end of this article (p. 356).

Public works.

There are two branches of the Public Works department, one of which is in charge of roads and buildings and miscellaneous public improvements, and the other controls irrigation, marine matters, and railways. Each branch is under

[1] In the present area of Bengal, there were 127 municipalities in 1904, of which 75 contained from 10,000 to 100,000 inhabitants, while 50 had less than 10,000 inhabitants. The total population within municipal limits was 2,354,180, and the incidence of taxation was Rs. 1-4 per head. The total number of municipal commissioners was 1,753, of whom 913 were elected and 745 were nominated; 249 were official and 1,504 non-official members; 231 were Europeans and 1,522 were natives.

a Chief Engineer, who is also secretary to Government. The Roads and Buildings branch administers five circles[1], three of which are controlled by Superintending Engineers and two by Executive Engineers, who are designated Inspectors of Works, and whose duties are to inspect the work done under the Engineers employed by the District boards and to exercise professional control over their proceedings. The Imperial and Provincial buildings and roads in these circles are in charge of the District Engineers, where the District boards concerned have accepted the responsibility for their up-keep, and of the Inspectors of Works in certain Districts in which those bodies have not accepted such a responsibility. The Superintending Engineers have control of Public Works divisions held by Executive Engineers, and they also act as Inspectors of Works in their circles. The Roads and Buildings branch also includes a temporary charge, comprising the buildings connected with the Imperial Agricultural Institute at Pūsa, which is under the control of a superintendent of works.

The Irrigation branch comprises four circles, each of which is under a Superintending Engineer. In Irrigation circles the Executive Engineers also carry out the works of the Roads and Buildings branch within the limits of their divisions, and the Superintending Engineers act as Inspectors of Works. Three revenue divisions formed for the assessment and collection of canal water rates are held by Deputy-Collectors under the control of the Superintending Engineer of this branch. The main lines of railway and their branches are administered directly by the Government of India, the Government of Bengal controlling only a few minor railways undertaken by private enterprise.

Rapid progress has been made in all departments since the introduction of Provincial finance in 1871. The Northern section of the Eastern Bengal State Railway was opened in 1878. The Orissa, Midnapore, and Hijilī Canals were completed in 1873, and, with the exception of the Calcutta and Eastern Canals, the entire Provincial canal system has been constructed since that date. The canalization of the Bhāngar channel in 1899 and the opening of the Madhumatī Bīl route in 1902 have greatly facilitated navigation by the Calcutta and Eastern Canals. As regards roads, the operations of the department are limited to the maintenance of a few trunk lines, and the initiative in the construction of new roads has been transferred to the District boards. Special efforts have, however, been directed to the improvement of communications in the Western Duārs*, and to the construction of feeder-roads to the railways.

Great improvements have been effected in the public buildings both

[1] The number of circles in Bengal, as at present constituted, is four, of which three are controlled by Superintending Engineers and one by an Executive Engineer, who is designated Inspector of Works.

in Calcutta and in the Districts. The antiquated structures in which the courts and public offices were formerly accommodated have been replaced by more spacious edifices built with some pretensions to architectural effect. Munsifs' courts, in particular, are being gradually transformed from primitive mat-and-thatch structures into permanent buildings of brick and mortar, and educational institutions are being provided with more suitable accommodation than was formerly thought sufficient for them, while the jails are being altered to meet modern sanitary requirements and to prevent overcrowding.

Among more or less recent buildings in Calcutta may be mentioned the Imperial Secretariat, Writers' Buildings, the General Post Office, the Telegraph Office, the Surveyor-General's Offices, the Government of India Central Press, the High Court, the Office of the Geological Survey department, and the Economic and Art Museum. Of educational buildings, the most important are the Senate House, Presidency College, Hare School, School of Art, and the additions to the Medical College. The Eden, Ezra, Sambhu Nāth Pandit, and Victoria Zanāna Hospitals and the Leper Asylum are new, and the Presidency General Hospital has been reconstructed.

Much attention has been devoted to the preservation of antiquities at PANDUA* and GAUR*; and the KONĀRAK temple and the BHUBANESWAR temples in Purī have been protected from decay.

Drainage schemes have been undertaken in HOOGHLY DISTRICT at a cost of 26 lakhs, whereby an area of 370 square miles has been drained and cultivation rendered possible.

Extensive waterworks have been constructed at DACCA*, BHĀGALPUR, MYMENSINGH*, HOWRAH, BURDWĀN, ARRAH, MURSHIDĀBĀD, and DARJEELING; a complete drainage scheme has been carried out at Patna, and electric lighting has been introduced at Dacca* and Darjeeling.

Army.

The strength of the army stationed within the Province in June, 1903, was 7,866, British troops numbering 3,221 and Native troops 4,645. Bengal is garrisoned by the Lucknow division of the Eastern Command. The troops are distributed at eleven military stations. At Fort William in Calcutta there are British and Native infantry, British artillery, and a submarine mining company; and there are Native infantry and cavalry at Alipore. British and Native infantry and British artillery are cantoned at Barrackpore, and British and Native infantry and British artillery at Dinapore. Darjeeling with Lebong has British infantry and artillery, and a British regiment is stationed at Dum-Dum. The remaining cantonments of Rānchī, Buxa, Cuttack, and Gangtok are manned by Native infantry. No recruitment takes place among Bengalis.

There is an arsenal at Fort William, a foundry and shell factory at

Cossipore, an ammunition factory at Dum-Dum, and a rifle factory at Ichāpur.

Volunteer corps have their head-quarters at Calcutta, Muzaffarpur, Darjeeling, Rānchī, Jamālpur, Bankipore, Dacca*, and Chittagong*; and the head-quarters of the Bengal-Nāgpur Railway Volunteer Rifles are at Kharakpur. The following table gives the total strength of all the corps in 1881, 1891, 1901, and 1903:—

	1881.	1891.	1901.	1903.
Naval	Nil	280	200	307
Artillery	Nil	218	561	422
Engineers	Nil	Nil	100	126
Light Horse or Mounted Rifles	61	822	1,106	1,049
Rifles	2,081	3,443	5,376	5,610
Total	2,142	4,763	7,343	7,514

Police and jails.

The Calcutta police force, of which an account will be found in the article on CALCUTTA, has a history of its own, and has always been independent of the police system in other parts of the Province. In the early days of British rule the Bengal *zamīndārs* were required to keep up establishments of police for the maintenance of peace, but by Regulation XXII of 1793 this system was abolished; the police were placed under the exclusive control of Government officers, and the *zamīndārs* were forbidden to maintain any such force[1]. Every District was divided into police circles, with an area of about 400 square miles, and a *dāroga*, with a staff of subordinate officers, was appointed to each. To meet the cost of these measures, a police tax was imposed on traders and others who were specially interested in the maintenance of the force and who made no other direct contribution to the State; but this tax was abolished in 1797, when court-fees and stamp duties were introduced. The functions of the new force were at first confined to the arresting of accused persons; but in 1797 the police *dārogas* were directed to inquire regarding unnatural deaths, and in 1807 the Magistrate was authorized to order a police inquiry when he saw reason to distrust the truth of a complaint. From this small beginning was soon evolved the regular system of police inquiries now in vogue, which was placed on a legal footing by Regulation XX of 1817.

In 1808 Superintendents of police were appointed to certain

[1] In 1807 the experiment was tried of associating landholders and others with the police, and of authorizing them in certain cases to receive charges and arrest accused persons and send them to the *dārogas*; but it proved a failure and was abandoned in 1810.

divisions, where they exercised concurrent jurisdiction with the Magistrates of Districts and cities. These posts were abolished in 1829, but they were again revived in 1837. The civil police force in that year consisted of 444 *dārogas*, 1,353 subordinate officers, called *muharrirs* and *jemadārs*, and 6,699 *barkandāz* or constables.

The whole force was reorganized and placed on its present footing by Act V of 1861. An Inspector-General of police was appointed, with complete powers of control in all departmental matters, and under him were 6 Deputy-Inspectors-General, 52 District Superintendents, 111 Assistant Superintendents, 570 inspectors, 936 sub-inspectors, 2,234 head constables, and 25,000 constables: these figures include the police in Assam, who were not separated from the Bengal police till 1871. The annual cost of the police force in Bengal rose from 36.6 lakhs in 1881 to 40.8 lakhs in 1891, to 51.7 lakhs in 1901, and to 54.9 lakhs in 1903. The composition of the force in those years is shown below:—

Grade.	Number in			
	1881.	1891.	1901.	1903.*
Deputy-Inspectors-General .	2	2	2	2
District and Assistant Superintendents . . .	73	71	75	88
Inspectors	143	155	169	175
Sub-inspectors . . .	697	903	1,649	1,719
Head constables . . .	2,191	2,357	1,704	1,722
Constables, including municipal police . . .	20,170	18,122	20,322	20,552

NOTE.—These figures are exclusive of the Calcutta force, the aggregate strength of which in 1903 was 3,323, and also of the railway and military police; they refer only to the executive force together with the reserves, both ordinary and armed.

* The corresponding figures for Bengal as now constituted were:—

Deputy-Inspectors-General	2
District and Assistant Superintendents .	57
Inspectors	210
Sub-inspectors	1,241
Head constables	1,566
Constables, including municipal police .	16,101

The Deputy-Inspectors-General are, in the main, inspecting officers, but they also arrange the posting of officers below the rank of Assistant Superintendent. The District Superintendents are in charge of the police of their Districts, but in all save purely departmental matters they are subordinate to the District Magistrates. Inspectors are employed chiefly on inspection, and the greater part of the investigations is conducted by sub-inspectors; much of this work was formerly done by head constables, but of late years it has, as far as possible, been taken out of their hands.

The higher grades of the police are filled on the results of a competitive examination in England and a competitive examination in

India, restricted to nominated candidates, a certain number of appointments being also given by nomination to natives of the country. The competitive examination held in India is now, however, to be abolished. Inspectors are almost invariably promoted sub-inspectors, but in future a certain number are to be appointed direct. Sub-inspectors are appointed either by open competition or by nomination. As a result of the Police Commission of 1903, it has been decided that there is to be no competitive examination for the recruitment of sub-inspectors, but that they shall be, as far as possible, recruited direct, and that a maximum proportion of appointments shall be fixed for promotion from the rank of head constable. In every case they have to go through a year's training in the Bhāgalpur Training School, where they are taught law, the Police Manual so far as it concerns them, the reading and recording of finger-impressions, riding, and drill. Head constables are, as a rule, promoted constables. Constables are recruited at the head-quarters of each District. The percentage of foreigners (i. e. men of another District) which it is permissible to enlist varies in different Districts from 30 to 80. Constables receive some training at the head-quarters before being sent out to investigating centres, and when stationed at head-quarters they also get some instruction in drill. In future they will be trained at central schools which are now being established for the purpose.

Service in the police has, till very lately, been unpopular with educated natives. The appointment of the Police Commission and the hopes of an improved service have, however, of late led many well-connected natives to apply for direct appointment to sub-inspectorships.

The rural police force of *chaukīdārs* or village watchmen is a very ancient institution, and, except in East and North Bengal, it is for the most part descended from the old Hindu village system, under which they were remunerated by small assignments of land. The village watchmen were placed under the *dārogas* by the Regulation of 1793 already referred to. Between 1813 and 1816 provision was made for the maintenance of *chaukīdārs* at all Magistrates' head-quarters, who were paid monthly stipends by the residents of the towns in question; and a somewhat similar arrangement was soon afterwards introduced generally in all Districts where the indigenous system mentioned above did not exist. The powers and duties of the *chaukīdārs* were laid down in detail in Regulation XX of 1817. In 1838 their number was estimated to be 190,000. In 1870 a new law was enacted (VI (B.C.) of 1870) detailing their duties and providing for the levy of their pay through the agency of local committees, called *panchāyats*, who were empowered not only to fix their pay at any rate between Rs. 3 and Rs. 6 a month, but also to appoint and, if necessary, dismiss

them. The latter powers are now exercised by the District Magistrate; the necessary funds are still usually collected by the *panchāyat*, but the Magistrate may, in certain cases, appoint a *tahsīldār* for the purpose. The *chaukīdārs* are required to attend the police station at regular intervals, usually once a week, in order to report the births and deaths occurring in their beats, and to give information regarding the movements of bad characters and other matters. They are also required to give immediate notice of the occurrence of all heinous offences, and are empowered to arrest and take to the police station persons caught red-handed. In order to provide a link between the regular police and the village *chaukīdārs*, *daffadārs* have been appointed over groups of from ten to twenty *chaukīdārs*. The rural police are not legally subordinate to the regular police, to whom they merely report. They are under the control of the District Magistrate, who can, however, delegate his powers to the District Superintendent of police. In some Districts he delegates all his powers, keeping in his own hands only the general power of control; in some Districts he delegates his powers in the head-quarters subdivision only; in others, again, he delegates powers to punish and reward within fixed limits. There are now 153,000 *chaukīdārs*, and the value of their annual emoluments is estimated at about 79 lakhs[1]. Most of them are now under Act VI (B.C.) of 1870, but about 5,000 still hold service-lands in lieu of salary; about 4,500 are under Regulation XX of 1817, and upwards of 9,000, in Chotā Nāgpur, are under a special Act (V (B.C.) of 1887) passed for that part of the Province.

The only criminal tribe having its head-quarters in Bengal that need be noticed is the Magahiyā Doms. These are most numerous in Sāran and Champāran Districts, where an attempt has been made to reclaim them by inducing them to settle down as agriculturists. Settlements have been formed on land given for the purpose by *zamīndārs*, and allowances for the purchase of seeds, &c., have been made to them by Government. Enough has been done to make it possible for them to live honestly if they choose to do so, but there has so far been no very marked improvement in their habits; their location in settlements, however, gives the local authorities some hold over them.

Reformatory schools are maintained at Alipore and Hazāribāgh; these contained 383 boys at the end of March, 1904, the total cost to Government during the year being Rs. 58,000. Boys of the agricultural classes are sent to the Hazāribāgh school, where cultivation and gardening are specially taught, while boys belonging to the industrial castes are sent to the Alipore school, where they are instructed in various industries. The kindergarten system of teaching has been

[1] The number of *chaukīdārs* in Bengal as now constituted is 106,500, and the value of their annual emoluments is estimated at nearly 49 lakhs.

introduced at Alipore; drill and gymnastics are included in the training at both schools, and games are played. A number of boys are provided with work outside the schools under a system of licences, and the Educational department endeavours to follow up the history of each boy for three years after his release.

On an average, 134,000 cases were reported yearly by the police between 1896 and 1901, of which 67,000 were dealt with by the criminal courts, 56,700 or 84·6 per cent. ending in conviction and the remainder in discharge or acquittal. During the same period 32,000 cases were on the average dealt with yearly by the Calcutta police, the nature of whose work is very different; of these, 29,800 were referred to the courts, and all but 950 ended in conviction.

The plan of identifying criminals by means of head measurements was introduced by Sir Edward Henry, when Inspector-General of Police; but he subsequently replaced it by the system of finger-prints, which is now in vogue everywhere. The record of finger-impressions, which in 1897 consisted of only 8,000 slips, had risen to nearly 56,000 in 1901, and to nearly 80,000 in 1903, when 1,555 men were thus identified, compared with 345 in 1898, the first complete year of working.

A special reserve of from twenty to fifty constables, armed with converted Sniders (now being replaced by converted Martini-Henry carbines) under a sub-inspector, is maintained at the head-quarters of each District, and four military police companies of 100 each, armed with Martini-Henry rifles, are stationed at Dacca*, Bhāgalpur, Dumkā, and Hooghly. In accordance with the recommendation of the Police Commission, these reserves are to be strengthened and placed in charge of European inspectors, and all members of the force are to pass periodically through them for courses of training. A separate railway police was formed in 1867, and now comprises 2 Assistant Inspectors-General, 17 inspectors, 44 sub-inspectors, 154 head constables, and 731 native and 14 European constables.

The jails of Bengal are divided into three classes—Central, District, and subsidiary. The Central jails, which are in charge of whole-time officers, are intended for the confinement of persons sentenced to long terms of imprisonment. Including the Presidency Jail in Calcutta, where European convicts are incarcerated, there are now eight[1] Central jails; in 1881 there were nine, and in 1891 seven. At the head-quarters of Districts where there is no Central jail, there is a District jail, which, except at Darjeeling, is supervised by the Civil Surgeon. Prisoners sentenced to imprisonment for more than two years are transferred to a Central jail. There are subsidiary jails at all subdivisional head-quarters for the detention of under-trial prisoners,

[1] There are six Central jails in Bengal as now constituted.

and of those sentenced to imprisonment for not more than fourteen days. It is proposed to detain only under-trial prisoners in these small jails as far as is practicable. Detailed statistics are given in Table XIII at the end of this article (p. 357).

The modern administration of the Jail department, which is controlled by an Inspector-General, dates from the period between 1877 and 1881, when many improvements were effected—the superintending staff was strengthened, and the pay and prospects of the subordinates were improved; new jails were built, discipline was made more strict, and greater care began to be taken to see that the prisoners were properly housed, clothed, and fed, and that medical aid was promptly rendered to those in need of it. The result of these measures has been most satisfactory. In 1881 and for twenty years previously, the mortality amongst prisoners had exceeded 61 per 1,000; in the next decade it fell to 45; between 1892 and 1901 it was only 32, and in 1903 only 23·7 per 1,000. The chief jail diseases are dysentery, pneumonia, malarial fevers, and cholera. Dysentery is becoming less common; in 1903, in spite of a greatly increased jail population, the deaths from this cause numbered only 91, compared with 475 twenty years earlier. Cholera has almost ceased to be a jail disease; in 1903 there were only 24 cases and 15 deaths. Fewer deaths than formerly are now ascribed to 'fever,' but this is due in part to better diagnosis; and the same cause may also perhaps account for the reported increase in tuberculosis, which, like pneumonia, often results from overcrowding.

In the District jails the prisoners are employed on simple forms of labour, such as brick-pounding, flour-grinding, and oil-pressing; but in the Central jails special industries are carried on to meet the requirements of various Government departments. In the Presidency Jail much of the Government printing is done; at Buxar tents and cotton cloth are made; at Midnapore the prisoners work in cane, coir, and aloe fibre, and so on. The earnings aggregated nearly 6 lakhs in 1903, compared with $5\frac{1}{4}$ lakhs in 1881, but the provision of hard labour for the prisoners is considered of more importance than the amount earned. The expenditure is steadily rising, but this is due largely to the increased cost of food-stuffs.

Education.

Bengal has always contained a large number of ordinary village schools or *pāthsālas*. These were used mainly by the higher Hindu castes and gave instruction in reading, writing, and arithmetic, but the education they afforded was very elementary; it consisted largely in learning by rote, and especially in committing elaborate arithmetical tables to memory. Brāhman *pandits* taught Sanskrit to their disciples, who were mostly Brāhmans and Baidyas, and there were also some indigenous medical schools. Muhammadan children attended *maktabs*, or elementary schools where boys

learnt to recite the Korān, and *madrasas*, or more advanced schools teaching Persian and Arabic. Under the Company's Charter Act of 1813 a lakh of rupees a year was allotted for expenditure on education, and in 1823 a Committee of Public Instruction was appointed. This Committee sought to encourage the learning and literature respected by the people and to foster high education as it was then understood, but no attempt was made to arrange for any general system of education.

Under Lord William Bentinck the cause of English education, which had hitherto been fostered mainly by the independent efforts of missionaries, rapidly gained ground; and in 1835 it was decided, through the influence of Macaulay, to impart instruction in the higher schools through the medium of English. The abolition in 1837 of Persian as the court language gave a great stimulus to the study of English, and about the same time the education grant was raised to 4½ lakhs; a system of scholarships was created for English schools, and Bengal was divided into nine educational circles, in most of which there was a central college, while every District was provided with a school to teach both English and the vernacular.

The Committee of Public Instruction was replaced in 1842 by a Council of Education. A system of examinations and scholarships was devised, and steps were taken to obtain employment in the public service for the most successful students. Model vernacular schools were established, and arrangements were made for the periodical examination of indigenous schools. Books were lent to these schools, and money rewards, amounting to about Rs. 5,000 a year, were given to deserving teachers and pupils.

The celebrated educational Dispatch, issued by the Court of Directors in 1854, gave a great impulse to education in India, and led in Bengal to the appointment in 1855 of a Director of Public Instruction and of a certain number of inspectors and sub-inspectors of schools, and also, shortly afterwards, to the constitution of a University Committee. This was followed by the establishment of a regular department of Public Instruction. From that date the progress of education in Bengal has been rapid and sustained. Systematic inspection was introduced, the scholarship system was developed, and grants-in-aid were given to private schools and colleges. All grades of education were fostered, and a complete system of examinations was organized. Encouragement was afforded to elementary education by means of small scholarships offered to the best pupils of vernacular schools. The most advanced boys from the District schools competed every year for higher scholarships tenable in colleges. Grants-in-aid were given to 79 English and 140 vernacular schools, and the School Book and Vernacular Literature Societies were established, both of which published useful works.

In Bengal proper the colleges established prior to 1857 were fourteen

in number, the earliest and most important being the Calcutta Madrasa, which was founded by Warren Hastings in 1781. In 1817 the Hindu College, which was subsequently merged in the Presidency College, was founded for the teaching of the English language and European science. A college was established by the Baptist missionaries at Serampore in 1818. The Sanskrit College dates from 1824, and in 1830 Dr. Duff founded the General Assembly's Institution. The schism in the Scottish Church in 1843 led to the establishment of the Free Church Institution. The Hooghly College was opened in 1836, and the Patna College in 1855–6. Besides these, there were Government colleges at Dacca*, Berhampore, Midnapore, and Krishnagar. The Doveton, La Martinière, and St. Paul's Colleges in Calcutta were private foundations, and the Bhawānīpur College was maintained by the London Missionary Society.

The Educational department is divided into four sections: namely, the Imperial service, the Provincial service, the Subordinate service, and the Lower Subordinate service. The Imperial service [1] consists of 31 officers appointed in England, comprising the Director of Public Instruction, Assam, the Assistant Director of Public Instruction, Bengal, 6 principals of colleges, 15 professors and 5 inspectors of schools, and 3 to fill vacancies. The post of Director of Public Instruction is not included within the Indian Educational service. The Provincial service, which is filled mainly by recruitment in India, consists of 109 officers: namely, 6 divisional inspectors of schools, 7 assistant inspectors, 7 principals of colleges, 56 professors of colleges, 23 head masters of collegiate and training schools, and 10 other officers. The Subordinate service, which includes all deputy-inspectors of schools, head masters of District schools, some assistant masters in District schools, foremen at technical institutions, &c., comprises 464 appointments. The minimum pay is Rs. 50 a month. The Lower Subordinate service consists of 1,112 persons.

The Director is the chief controlling officer of the department. Below him the chief executive officers are the divisional inspectors of schools, one for each Commissioner's Division, who, with the help of

[1] Owing to the recent transfer of officers to the new Province of Eastern Bengal and Assam, the strength of the Indian Educational service in Bengal has been reduced to 27 officers. It includes 2 divisional inspectors of schools, the inspector of European schools, the inspectress of schools, the Assistant Director of Public Instruction, 5 principals and 14 professors of colleges, and 3 officers to fill vacancies. After the transfer of 27 officers to the new Province, there remain 81 officers in the Bengal Provincial service: namely, 4 divisional inspectors and 5 assistant inspectors of schools, 5 principals and 42 professors of colleges, 16 head masters of collegiate and training schools, and 9 other officers. Altogether 101 officers have been transferred to the new Province from the Subordinate Educational service, which now comprises 346 officers exclusive of the sub-inspectors of schools.

assistant inspectors, supervise all schools in their Divisions. Usually each District is in charge of a deputy-inspector, who is assisted by a sub-inspector in each subdivision and *gurū* instructors in each *thāna*. The District boards have control over education more or less elementary in rural tracts, but in some cases they have delegated their duties in regard to primary education to local boards. In the few Districts where these boards do not exist, the local control is vested in special committees.

The department[1] maintains 11 Arts colleges, including one for girls; 9 professional colleges, of which 7 are law colleges attached to and forming part of the same number of Arts colleges; 77 secondary schools, including 2 high and one middle English school for girls; 123 primary schools, including one for girls; and also 145 schools for special instruction, including a Government college and 4 Government vernacular schools for medicine.

The teaching institutions fall into three main groups: namely, University education, or the advanced instruction given to candidates for degrees; and secondary education, or the instruction given to boys and girls who have passed beyond the third or elementary stage, known as primary education.

The rise of the Calcutta University dates from 1856, when rules were formulated for conducting examinations and granting degrees in Arts, Law, Medicine, and Engineering, and the Presidency College was placed upon an improved footing. The Act of Incorporation of the Calcutta University was passed in January, 1857. In 1859 the intermediate examination in Arts was established, the degree of 'Licentiate' was created in the Faculties of Law and Engineering, and that of Doctor in the Faculty of Law. The degree of M.A. was conferred for the first time in 1862, and that of Bachelor of Science in 1901–2.

In 1904 the Indian Universities Act was passed, which gives greater control in academical matters to the teachers who are connected with colleges affiliated to the University; it also aims at improving the standard of education in colleges, imposes more stringent conditions on affiliation, and provides for periodical inspection by experts.

The Viceroy is Chancellor of the University. The Fellows are appointed by him, but some of them are selected on the suggestion of graduates and of the Faculties of the Senate. The Vice-Chancellor is appointed by the Governor-General-in-Council from the Fellows. The University is not a teaching University in the ordinary sense of the

[1] In the new Provincial area the department maintains 8 Arts colleges, one of which is for girls; 6 professional colleges; 59 secondary schools, including one high and 2 middle English schools for girls; 86 primary schools, one of which is for girls; and 103 special schools, including one Government college and 3 Government vernacular schools for medicine.

term; its principal functions are to affiliate colleges, to recognize high schools, to prescribe courses of study for colleges and the upper classes of high schools, to hold examinations, and to grant certificates and diplomas to the successful candidates. The Chancellor, Vice-Chancellor, and Fellows constitute the Senate, which meets once a year, and also when convened by the Vice-Chancellor on the requisition of any six members. It is divided into the Faculties of Arts, Law, Medicine, and Engineering, to which a Faculty of Science has now been added. These Faculties are appointed by the Senate at its annual meeting, and each elects its own president; every member of the Senate is a member of at least one Faculty. The executive government of the University is vested in a Syndicate, consisting of the Vice-Chancellor and ten of the Fellows, who are elected for one year by the several Faculties. Boards of Studies consisting of from six to sixteen members are appointed for the principal departments of studies; their duties are to recommend textbooks and the courses of study in their respective departments, and to advise the Syndicate regarding the appointment of examiners and upon any other matter that may be referred to them. The expenditure of the University in 1903-4 was 2·29 lakhs, which was entirely met from the fees paid by candidates at the examinations.

In 1857, 10 Arts colleges were affiliated to the Calcutta University. The number had risen to 34 in 1891, to 44 in 1901, and to 46 in 1903-4. These are divided into two grades: the first-grade teach up to the B.A. standard of the University, while in the second-grade colleges the course prescribed for the intermediate examination in Arts, or a course of a similar standard, is taught. An undergraduate of the University may appear for the B.A. or B.Sc. examination, provided he has prosecuted a regular course of study in any affiliated institution for not less than four academical years, and if he passes, he may appear at the M.A. examination whenever he pleases. Of the 46 affiliated colleges, 11 are maintained by Government and one from municipal funds; 6 are aided and 28 unaided. The Presidency, Patna, and St. Xavier's Colleges were affiliated to the B.Sc. standard of the Calcutta University in 1901. The Indian Association for the Cultivation of Science has also been affiliated to this standard. In addition to those just mentioned, the Dacca* College, the General Assembly's Institution, the Duff College, the Metropolitan Institution, the Ripon and the Bangabāsī Colleges are the most important Arts colleges. The total expenditure incurred on Arts and Professional colleges in 1903-4 was 12·73 lakhs, of which 5·87 lakhs was derived from Provincial revenues and 4·92 lakhs from fees.

A Law department was attached to the Presidency College and affiliated to the University in 1857. This example was soon followed,

and the number of colleges teaching law had grown to 12 in 1890–1, and to 17 in 1900–1, the number falling to 16 in 1903–4. The opening of law classes in other Calcutta institutions greatly reduced the attendance and income of those at the Presidency College, which were therefore abolished. The Calcutta Medical College was founded in 1835 by Lord William Bentinck, and affiliated to the Calcutta University in 1857. For the students of this college University standards of various descriptions have been prescribed. Institutions for medical education are now controlled by the Inspector-General of Civil Hospitals. The Civil Engineering College was opened in November, 1856, as a department of the Presidency College, but in 1880 it was replaced by the Government Engineering College at Sibpur (*see* HOWRAH), which was affiliated to the University; the instruction was made more practical, and classes were opened for civil engineers, mechanical engineers, overseers, and mechanical apprentices. A few appointments under Government are guaranteed to the students of this college.

Students not living with their parents or guardians are now required to reside at duly authorized hostels. The number of such hostels in 1903–4 was 411, with 14,045 inmates; and they were maintained at a cost of 10·95 lakhs, of which Rs. 51,000 was paid from public sources.

The results of the most important examinations in each of the years 1880–1, 1890–1, 1900–1, and 1903–4 are shown below:—

Passes * in	1880–1.	1890–1.	1900–1.	1903–4.
Matriculation . . .	1,184	1,816	2,812	2,394
First or Intermediate in Arts	320	693	1,039	1,198
Ordinary Bachelor of Arts degree	126	231	329	295
Higher and special degrees .	30 †	57 ‡	91 §	74 ‖

* Including private candidates.

† In M.A. only. Besides, there were 35 passes in B.L., 17 in L.M.S., one in Honours in Medicine, 9 in M.B., 10 in L.E., and 3 in B.E.

‡ In M.A. only. Besides, there were 128 passes in B.L., 13 in 2nd L.M.S., one in Honours in Medicine, 3 in 2nd M.B., one in M.D., 3 in L.E., and 2 in B.E.

§ In M.A. only. Besides, there were 160 passes in B.L., 64 in 2nd L.M.S., 3 in 2nd M.B., and 10 in B.E.

‖ In M.A. only. Besides, there were 136 passes in B.L., 59 in 2nd L.M.S., 3 in 2nd M.B., 12 in B.E., and 5 in B.Sc.

Schools which have classes where students are prepared for the University Matriculation examination are classed as 'high schools,' and all other secondary schools are 'middle schools.' The latter, again, are divided into two classes, according as English is or is not included in the curriculum. This language is the medium of instruction in the first four classes of high schools, and it is taught as a second language in all but the lowest classes of both high and middle English schools. There is a tendency to convert middle vernacular into middle English schools, and to raise the latter to the rank of high schools; the middle English

now outnumber the middle vernacular schools, and also contain considerably more pupils. The attendance at schools of this class is improving, and is now about the same as in high schools. The total number of secondary schools for boys in 1903–4 was 2,465, of which 74, or 3 per cent., were directly managed by Government, and 186, or 7·5 per cent., by District or municipal boards; 1,584, or 64·3 per cent., were aided from public funds, including Native State revenues, while the rest were unaided. The number attending these schools was 252,000, or 4·4 per cent. of the boys of school-going age.

Primary schools are intended chiefly for the masses. They are divided into two grades—upper and lower. In the latter the elements of reading, writing, simple arithmetic, and agriculture are taught. It is now proposed to establish in purely agricultural areas rural schools with shorter and simpler courses suited to the needs of the agricultural population. In the upper primary schools the curriculum is a little more advanced, though considerably below the final course prescribed for middle schools; it includes the elements of history, geography, geometry, and science, in addition to the study of vernacular literature. A few primary schools are managed by the Educational department or by local bodies; but the great majority are merely aided by the grant of monthly or quarterly stipends, supplemented by grants made on the result of local inspection and depending upon the number of pupils under instruction, the stage of instruction reached, the qualifications of the *gurū*, the nature and condition of the school-house, and other factors which go to make up a successful school. This system of payment was until recently the usual one, except in backward localities, but it has been held not to work satisfactorily. It has now been decided to pay all the *gurūs* by fixed stipends, and an additional grant of 5 lakhs has been set aside by the Local Government for this purpose. In 1903–4, 122 primary schools were wholly maintained by the department, 18 by District or municipal boards, and 304 by Native States; nearly 82 per cent. of the total number were aided in the manner described above, and a few were aided by Native States; the remainder were unaided. The average yearly pay of the teachers of upper primary schools was about Rs. 136 in 1900–1, and rose to Rs. 148 in 1903–4; that of the teachers of lower primary schools rose in the same period from Rs. 56 to Rs. 63. In recent years no systematic attempt has been made to train *gurūs*, but training schools for them are now being started in each subdivision.

The promotion of female education in Bengal is beset with difficulties. There is no general demand for it as a means of livelihood; the *parda* system and early marriage stand in the way, and, until recently, the curriculum was not suitable for girls. New standards, containing more congenial subjects such as literature, history, domestic economy, and

needlework, have now been prescribed for schools in and about Calcutta, and are being gradually introduced in the Districts.

Girls' schools in advanced tracts are aided from Provincial revenues, and model primary schools for them have been started in every District. Training classes, aided from Provincial revenues, have been recently opened in connexion with mission and other schools, and orthodox Hindu and Muhammadan female teachers have been appointed to further the spread of *zanāna* education. *Zanāna* teaching is also carried on by Christian missionaries and by several Hindu and Brahmo associations, especially in Calcutta.

The number of Arts colleges and schools for girls rose from 831 in 1881 to 2,362 in 1891, to 2,973 in 1901, and to 5,005 in 1904. In the same years the numbers of girls in colleges were respectively 5, 40, 72, and 98; in secondary schools, 6,000, 5,500, 5,600, and 5,600; and in primary schools, 29,000, 75,000, 91,000, and 147,000. The percentage of girls under instruction to the number of school-going age was 0.87 in 1880–1, 1.61 in 1890–1, 1.8 in 1900–1, and 2.8 in 1903–4. The Bethune College, La Martinière, and Loretto House are the principal centres of female education. In all twelve high schools for girls were aided by Government or by District or municipal boards in 1903–4.

District boards spent Rs. 25,000 on girls' schools in 1890–1, Rs. 38,000 in 1900–1, and Rs. 80,000 in 1903–4. The boards have also created special scholarships for female pupils in primary schools. To encourage their education up to higher standards at home, Government has recently ruled that girls may draw scholarship stipends without attending schools, if they can prove that they have attained a higher standard by home study. There are an inspectress and assistant inspectress of girls' schools, whose duty it is to look after female education.

The establishment of normal schools for training teachers other than *gurūs* dates from 1855, but it was not until 1874 that they became at all numerous. There were then 56 in all. There are 10 medical schools as compared with 5 in 1884; of these 4 are Government institutions, and the rest are unaided. Among other special schools may be mentioned 4 engineering and survey and 4 art schools. There were 27 industrial schools with 806 pupils in 1903–4, against 4 with 144 pupils twenty years previously. *Madrasas* (for the teaching of Arabic and Persian) have increased during the same period from 7 to 83. Various other educational institutions, such as recognized *tols* (for the teaching of Sanskrit), reformatory schools, music schools, and schools for the deaf and dumb, number in all 590. An agricultural department attached to the Sibpur Civil Engineering College was attended in 1903–4 by 25 students, 11 in the first year class and 14 in the second year; it has not been very successful and will shortly be removed to Pūsa.

Fixed grants were formerly given to certain European schools in Bengal, but since 1882 the annual grants have been based partly on the returns of attendance, and partly on the results of examinations. The primary and secondary schools, taken together, numbered 55 with 5,000 pupils in 1883, and 69 with 7,000 pupils in 1891; while 80 schools with 8,000 pupils were returned in 1903–4. The number of pupils who passed the various code examinations was 65 in 1883, 247 in 1891, and 543 in 1903–4; the numbers who passed the entrance examination of the Calcutta University in the same three years were 38, 95, and 16 respectively. A few boys of the better class are provided with appointments in the Police, Opium, and Accounts departments. Some have obtained situations in railways, mercantile offices, tea-gardens, and jute factories, and some have continued their education in the Medical College or at the Sibpur Engineering College. The girls have become teachers, typewriters, or shop assistants, and a few of them have entered the medical profession.

Although some improvement is observable of late years, Muhammadans are still backward in respect of education. In proportion to the relative populations, Hindus gained twelve times as many University degrees in 1901 as Muhammadans, and they sent thrice the number of pupils to secondary schools. In the same year only 9 per cent. of Muhammadans of school-going age attended primary schools, as compared with 11·9 per cent. among Hindus. The comparison, however, cannot fairly be made solely on a numerical basis; the great majority of the Muhammadans of Bengal are converts from the lower strata of the population, and it is doubtful if they are worse educated than the Kochs and Chandāls and cognate Hindu castes from whose ranks they have sprung. Moreover, their instruction in the ordinary schools is retarded by the long course of religious training which a devout Musalmān must undergo before he may turn his thoughts to the acquisition of secular knowledge. In order to foster Muhammadan education, steps have been taken to improve the *Maktabs* and Korān schools by offering subsidies to teachers who adopt the departmental standards, by replacing teachers of the old type by better qualified men, and by increasing the number of Muhammadans on the inspecting staff. Muhammadan pupils in high schools are allowed additional free studentships and enjoy the benefits of the Mohsin fund, under which they obtain part remission of fees in schools and colleges. Several special scholarships have also been created, with a view to enable Muhammadans to receive collegiate education.

The great home of the aboriginal races is in the hills and uplands of the Chotā Nāgpur plateau and the adjacent country. Special attention has been given to the requirements of these rude tribes by Government and the District boards, and excellent service has been

rendered by missionaries, who have established many schools in their midst. The Dublin University Mission has started a college at Hazāribāgh for the promotion of their higher education, and a Government high school at Rāngāmāti is also chiefly intended for aborigines. In the Santāl Parganas a special inspector has been appointed to visit Santāl schools. In all 8,000 Christian and 34,000 non-Christian aborigines attended school in 1903–4.

The expenditure on the various classes of educational institutions in 1900–1 and in 1903–4, with the sources from which the funds were derived, is shown in Table XIV at the end of this article (p. 358).

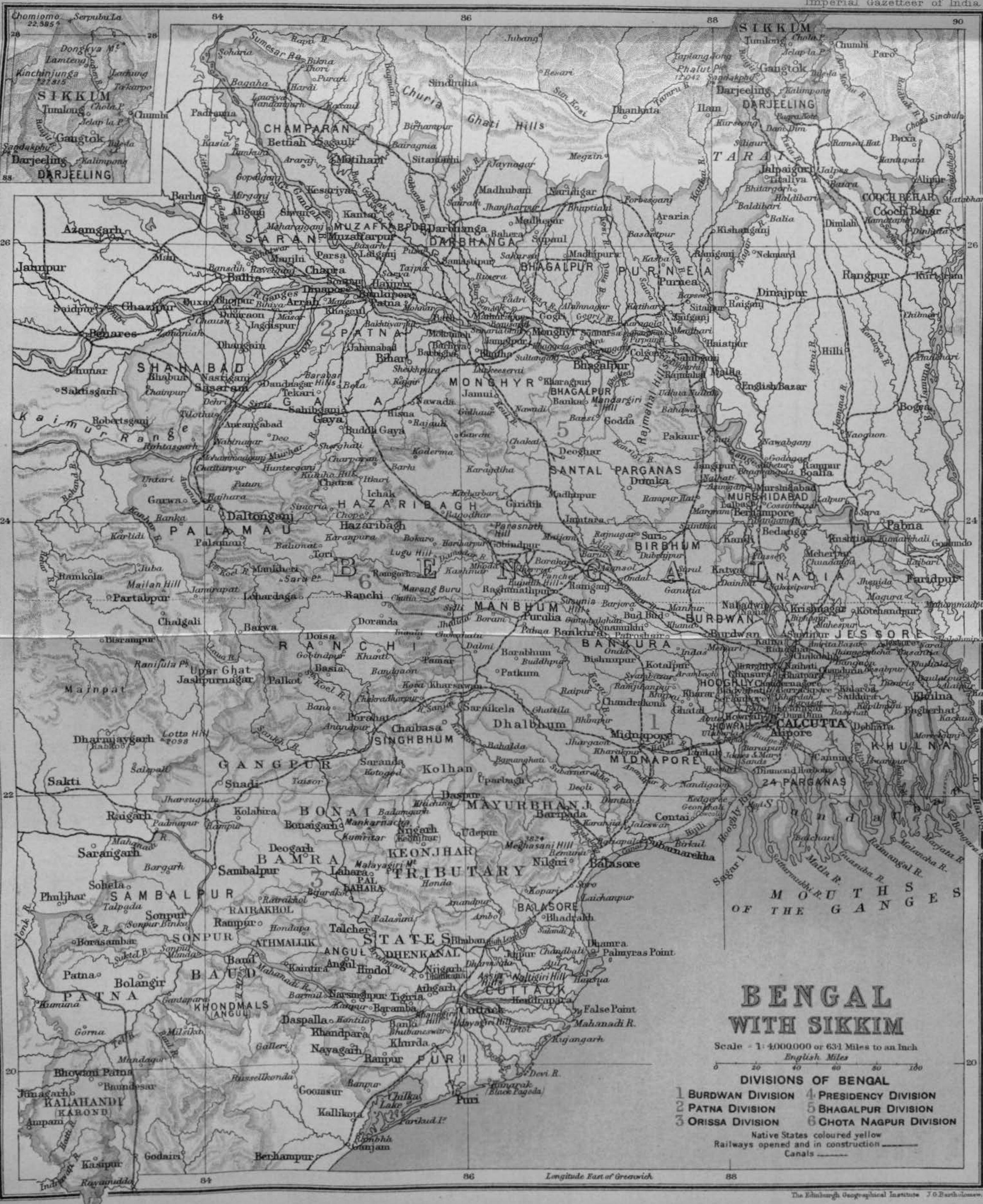
The number of children attending schools represented 10·2 per cent. of the total population of school-going age in 1881, 13·5 in 1891, 14·2 in 1901, and 16·5 per cent. in 1903–4. The number of persons returned as literate at the Census of 1901 was 4,259,000, or 5·5 per cent. of the total population; for males the percentage was 10·5 and for females 0·5. During the last decade the number of literate males shows an increase of 15 per cent., while that of females has risen by 63 per cent. In every 10,000 persons of each sex, 89 males and 6 females can read and write English. The Burdwān, Presidency, and Orissa Divisions are the most advanced in the matter of education. Among religions, Christians take the lead, followed, in the order mentioned, by Buddhists, Hindus, Musalmāns, and Animists. Of the Hindu indigenous castes, the Baidyas and Kāyasths have the largest proportion of literate persons, and the depressed race-castes of Bihār have the smallest.

The fees in Government colleges vary from Rs. 12 a month in the Presidency College to Rs. 2 in the Calcutta Madrasa and the Sanskrit College; those in aided colleges range from Rs. 5 to Rs. 3, and those in unaided colleges from Rs. 5 to Rs. 2–8[1]. In Government high schools fees range from R. 1 to Rs. 5; in aided high schools from annas 8 to Rs. 2, and in unaided high schools from annas 4 to Rs. 2. In Government middle schools the fees vary from annas 2 to R. 1, in aided middle schools from 2 to 8 annas, and in unaided middle schools from 1 to 8 annas. In primary schools the fees are from 1 to 4 annas.

The principal statistics of colleges, schools, and scholars for each of the years 1890–1, 1900–1, and 1903–4 are shown in Table XV at the end of this article (p. 359).

Leaving out of account the *Samāchār Darpan*, which was started long ago at Serampore by Baptist missionaries, and the *Samāchār Chandrikā*, a Calcutta publication, it is doubtful whether even half a dozen vernacular newspapers were in existence in Bengal before 1860. In 1863, when a weekly official report on native papers was instituted, the total number was 20, of which one was published in English and Urdū, 3 in Persian, one in Hindī, and 15 in Bengali. No

[1] The Rāj College at Burdwān charges no fees.



The Edinburgh Geographical Institute J.G.Bartholomew.

less than 7 of these papers were entirely devoted to religious and social topics. The numbers of these newspapers stood at 40 in 1873, at 50 in 1881, at 71 in 1891, at 55 in 1901, and at 70 (4 only being Muhammadan) in 1903–4. In that year there were also 22 native-owned English newspapers and 4 Anglo-vernacular papers. Owing to the spread of vernacular education and the growth of a reading public, the native newspaper press has now, in its own way, become a power in the country. A great change has gradually taken place in its character, tone, and literary style. In 1863 and for some years afterwards the papers devoted small space to the discussion of political questions or large administrative measures, and items of news and speculations on religious and social subjects constituted the major portion of their contents. Politics received very meagre treatment; the writers offered their opinions with diffidence, and their tone was always respectful; their literary style was stiff and sanskritized. The principal characteristics of such papers at the present time are the increasing prominence given to political and administrative questions, a reckless, exaggerated, and occasionally disloyal tone, and a colloquial, ungrammatical, and anglicized style. With the spread of English education, the papers published in English by Bengalis are rapidly growing in importance.

The vernacular papers have, as a rule, a very limited circulation, and only about 15 are of much importance. The *Hitabādī* and *Basumatī* occupy the first place in respect of circulation; the latter paper has, however, less influence than the *Bangabāsī*, the organ of the orthodox Hindus. The *Sanjībanī* is the mouthpiece of the Brahmos, and the *Habl-ul-matīn* and *Mihir-o-Sudhākar* represent the Muhammadans.

The number of publications received in the Bengal Library during 1903–4 was 2,905, of which 2,089 were books and 816 were periodicals. These publications deal with literary, social, political, religious, and economic subjects; but, with the exception of a few important scientific publications, they display little original research.

Medical.

Most of the chief medical institutions of the Province are in Calcutta. Among the Mofussil institutions the largest and most important is the Mitford Hospital at Dacca*, which was built in 1858 at a cost of over Rs. 76,000; it has accommodation for 170 patients. The Bankipore Hospital, for which a new building is being provided, has now 124 beds; the Cuttack General Hospital has 82 beds; the Burdwān Hospital, 76; the Darbhangā Hospital, 65; the Midnapore Hospital, 77; and the Gayā Pilgrim Hospital, 84 beds. The Lady Dufferin Zanāna Hospitals in Bettiah and Darbhangā, maintained, respectively, by the Bettiah and the Darbhangā Rājs, and the Lady Elgin Zanāna Hospital at Gayā are also doing excellent work.

There are dispensaries at all District and subdivisional head-quarters and wherever there are municipalities, and also at many places in the interior; all the former and many of the latter of these have accommodation for in-patients. They are for the most part maintained by the municipality or District board concerned, with the aid of grants from Government and public subscriptions. The total number of these dispensaries in 1903 was 614, compared with only 237 twenty years earlier. For further details Table XVI at the end of this article may be referred to (p. 360).

There are 5 lunatic asylums in the Province, situated at Bhawānīpur in Calcutta, Dacca*, Patna, Cuttack, and Berhampore. Of these, the first is reserved for Europeans and Eurasians, and the others for natives; the latter, with the exception of that at Dacca*, will soon be replaced by a single central asylum. The alleged causes of insanity among Europeans are chiefly the abuse of alcohol among males and heredity in the case of females; *gānja*-smoking and heredity are the chief causes assigned for lunacy among natives.

There are 8 asylums for lepers, at Gobrā, Deogarh, Purūlia, Rānīganj, Asansol, Bānkurā, Bhāgalpur, and Lohārdagā. The six last mentioned have been established by the Society for Missions to Lepers in India and the East, and the Gobrā asylum is a Government institution managed by a body appointed by Government. The total number of inmates in October, 1904, was 1,179, of whom 622 were in the Purūlia asylum. The Lepers Act, III of 1898, which came into force in Bengal in 1901, provides for the segregation and medical treatment of pauper lepers and for the control of lepers following certain trades connected with the bodily requirements of human beings.

In former times the practice of inoculation was widespread. The operation was preceded by a ceremony performed in honour of Sītala, the goddess of small-pox: a twig of a mango-tree was dipped in a pitcher of water, some *mantras* or charms were recited by a Brāhman, and offerings of milk and sweetmeats were made. The patient was then inoculated with the crust of small-pox on the right forearm, if a male, or on the left forearm, if a female. He was bathed on the second day, to bring on fever, and was then confined for twenty-one days, after which a mixture of turmeric, *nīm* leaves, and coco-nut oil was rubbed over the body. Inoculation is still practised clandestinely in parts of Orissa and Bihār, but it is becoming more and more rare, and vaccination is rapidly taking its place. Vaccinators are licensed by District Magistrates, and their work is supervised by the Civil Surgeons and the Superintendents of Vaccination. Where the older method survives, the vaccinators are usually recruited from the ranks of the former inoculators, but in the Province as a whole barely a quarter of the staff belongs to this class.

The chief statistics of hospitals, lunatic asylums, and of vaccination are shown in Table XVI at the end of this article (p. 360).

In order to bring quinine within the reach of all, the system of selling it through the agency of the Postal department, in pice-packets, each containing 5 (now 7) grains, was inaugurated in 1892. The drug is manufactured at the Government factory in Darjeeling, and is made up into packets at the Alipore jail, whence it is supplied to all post offices in Bengal. The postmasters receive a small commission on the sales effected by them. The system has met with considerable success; in 1903 nearly 3,000,000 packets of this valuable febrifuge were sold, compared with one-eighth of a million in 1893.

The difficulties in the way of promoting village sanitation in India are enormous, the chief being the ignorance and prejudices of the people and the absence of an educated and trustworthy local agency. Something has been done to improve the water-supply by providing tanks and wells, and disinfecting them either periodically or when epidemic disease breaks out; and grave sanitary evils, which affect the public health and so constitute a public nuisance, are dealt with under Chapter XIV of the Indian Penal Code. The Local Self-Government Act (III (B.C.) of 1885) contains provisions for enforcing sanitation, but they have not yet been applied. A Sanitary Board was constituted in 1889, but it is merely a consultative body, and at present attention is directed mainly to the education of public opinion in municipalities. It is hoped that in time, with the diffusion of education, a knowledge of sanitary requirements will gradually spread to rural areas; but until it does so very few improvements are feasible.

Surveys.

The basis of all surveys in Bengal is the Grand Trigonometrical Survey which was carried out early in the nineteenth century. A general revenue survey commenced in 1835, and by 1872 the operations had been extended to the whole Province except Midnapore District (which was surveyed in 1872–8), the Sundarbans, Hill Tippera*, the Chittagong Hill Tracts*, the Santāl Parganas, Angul, and the Chotā Nāgpur Division. Most of these tracts were topographically surveyed during the same period on scales varying from ¼ inch to 1 inch to the mile. The revenue survey was preceded by a demarcation of villages and estates, which was known as the *thāk* survey, and was generally made on the scale of 4 inches to the mile. The boundary of each village and estate was separately surveyed; the maps showed also important topographical details, but were on too small a scale to indicate field boundaries. From these surveys District maps have been prepared on ¼ and 1 inch scales.

Between 1863 and 1869 a *diāra*[1] survey was made along the banks of the Ganges from the point where it enters Bengal down to its junction

[1] *Diāra* means an alluvial flat or island.

with the Brahmaputra, and all changes due to alluvion and diluvion which had taken place since the revenue survey were mapped. In 1874-6 this survey was continued down to the sea. About the same time a number of surveys were made in different parts of the Province, either in order to resettle the revenue of Government estates, as in the case of Chittagong* and Khurdā, or to assess *ghātwāli*[1] lands in Chotā Nāgpur. These surveys were generally on a scale of 16 inches to the mile and showed field boundaries, but they were with some exceptions partial and unprofessional, and were lacking in accuracy and finish. In 1889 it became necessary to survey the sub-province of Orissa and the District of Chittagong*, in order to resettle the revenue of time-expired estates, and professional detachments of the Survey department of the Government of India were organized for this purpose. In 1890 it was decided to prepare a survey and record-of-rights in the North Bihār Districts, and similar methods were adopted. The total area dealt with by parties of the Survey of the Government of India between 1889 and the end of September, 1904, has been 32,915 square miles, as shown below:—

District.	Area in square miles.	District.	Area in square miles.	District.	Area in square miles.
Chittagong*	2,003	Cuttack .	2,269	Purnea . .	2,408
Muzaffarpur	3,046	Balasore .	1,733	Backergunge*	2,126
Champāran	3,280	Purī . .	1,134	Rānchī . .	1,344
Sāran . .	2,510	Tippera* .	554	Other District areas under 200 square miles .	853
Gayā . .	546	Palāmau .	294		
Darbhangā .	3,307	Bhāgalpur .	3,849		
Monghyr .	1,449	Darjeeling .	210		
				Total	32,915

These surveys have been made on a scale of 16 inches to the mile (larger scales have sometimes been employed for crowded village sites), and the maps show the boundary of each field as well as all topographical features. In addition to the area shown above, similar operations have been carried out in the Santāl Parganas, Singhbhūm, Noākhāli* and elsewhere, by parties working under the supervision of revenue officers, the field-to-field measurements in this case being sometimes preceded by a professional traverse survey. A large number of petty estates have also been surveyed at the request of the proprietors. Taking all these surveys together, cadastral maps of about 36,405 square miles, or nearly a quarter of the area of British territory in the Province, have been prepared since 1889.

In 1892 an officer of the Survey of India was appointed, with the title of Director of Bengal Surveys, to administer the Bengal Survey directly

[1] Lands held, in lieu of pay, for police services. Disputes had arisen as to what lands were so held, and as to the services to be rendered.

under the Bengal Government. His post was abolished in 1895, and the appointment of Superintendent of Provincial Surveys created in its stead.

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TABLE I. Temperature and Rainfall of Bengal

(*a*) Temperature

Station.	Height of Observatory above sea-level in feet.	Average temperature (in degrees Fahrenheit) for twenty-five years ending with 1901 in							
		January.		May.		July.		November.	
		Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.
Calcutta (Alipore)	21	66·3	21·7	85·9	17·0	83·3	9·8	73·1	17·2
Chittagong* †	87	66·9	23·1	82·1	13·5	81·2	9·2	74·5	17·4
Cuttack	80	70·7	21·1	90·7	21·4	84·4	11·3	75·8	19·1
Jalpaigurī* ‡	284	61·4	21·6	80·1	16·3	82·6	11·8	70·7	21·4
Patna	183	61·5	22·0	88·9	22·7	85·1	10·7	71·4	21·2
Hazāribāgh §	2,007	61·8	21·9	87·2	23·7	79·4	11·1	67·9	19·5
Darjeeling (Hill station)	7,376	40·1	11·0	57·5	11·8	62·0	8·7	48·3	12·4

Note.—The diurnal range is the average difference between maximum and minimum temperatures of each day.

† These figures are for twenty-four years. ‡ These figures are for eighteen years. § These figures are for twenty years.

(*b*) Rainfall

Station.	Average rainfall (in inches) for twenty-five years ending with 1901 in												Total of year.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Calcutta (Alipore)†	0·33	1·02	1·09	1·54	5·62	10·95	12·34	12·72	10·75	3·80	0·71	0·30	61·17
Chittagong*	0·28	1·05	2·52	3·78	9·57	21·85	20·25	17·07	11·44	6·20	1·50	0·73	96·24
Cuttack	0·24	0·58	1·17	1·03	4·20	10·06	11·30	12·98	10·06	5·29	1·63	0·24	58·78
Jalpaigurī*	0·48	0·44	1·36	3·28	12·60	24·20	31·23	25·45	21·62	4·16	0·20	0·09	125·11
Patna	0·78	0·64	0·39	0·27	2·09	7·94	12·36	12·03	6·69	3·13	0·19	0·14	46·65
Hazāribāgh	0·69	0·90	0·76	0·46	2·31	8·65	13·58	12·72	8·89	3·00	0·28	0·28	52·52
Darjeeling (Hill station)	0·82	0·95	1·75	4·25	8·98	23·44	33·56	26·04	18·35	4·30	0·25	0·24	122·93

† These figures are for twenty-four years.

TABLE II. DISTRIBUTION OF POPULATION OF BENGAL, AS NOW CONSTITUTED, ACCORDING TO CENSUS OF 1901

Divisions and States.	Area in square miles.	Number of		Total Population.			Urban Population.			Persons per square mile in rural areas.
		Towns.	Villages.	Males.	Females.	Total.	Males.	Females.	Total.	
Burdwān Division	13,949	27	24,869	4,116,952	4,123,124	8,240,076	312,636	236,083	548,719	591
Presidency Division	17,502	46	20,496	4,703,862	4,289,166	8,993,028	905,229	557,495	1,462,724	514
Patna Division	23,748	35	34,169	7,468,314	8,046,673	15,514,987	393,143	401,494	794,637	653
Bhāgalpur Division *	19,776	14	18,670	4,026,945	4,064,460	8,091,405	120,725	108,277	229,002	409
Orissa Division †	13,743	7	15,409	2,429,508	2,552,634	4,982,142	93,175	87,147	180,322	363
[*Sambalpur*	3,824	1	1,984	313,782	325,210	638,992	6,531	6,339	12,870	167]
Chotā Nāgpur Division	27,101	13	23,876	2,409,266	2,491,163	4.900,429	61,901	59,177	121,078	181
Total, British Territory	115,819	142	137,489	25,154,847	25,567,220	50,722,067	1,886,809	1,449,673	3,336,482	438
Cooch Behār	1,307	4	1,192	301,382	265,592	566,974	9,130	4,930	14,060	434
Tributary States, Orissa ‡	28,046	9	19,022	1,583,992	1,589,403	3,173,395	25,167	21,486	46,653	113
,, Chotā Nāgpur §	602	...	1,079	69,600	71,479	141,079	...	...	...	234
Sikkim ‖	2,818	...	125	30,795	28,219	59,014	...	...	...	21
Total, Native States	32,773	13	21,418	1,985,769	1,954,693	3,940,462	34,297	26,416	60,713	120
GRAND TOTAL	148,592	155	158,907	27,140,616	27,521,913	54,662,529	1,921,106	1,476,089	3,397,195	368

* The District of Darjeeling, which was included in the Rājshāhi Division until October 16, 1905, has been attached to the Bhāgalpur Division, while Mālda, which was formerly included in the latter Division, has been transferred to the Province of Eastern Bengal and Assam.

† The District of Sambalpur, which formerly was part of the Central Provinces, has been attached to the Orissa Division since October 16, 1905.

‡ As explained in p. 194, five States were transferred from the Central Provinces on October 16, 1905. At the same time the States of Gāngpur and Bonai, which before formed part of the group of States known as the Chotā Nāgpur States, were transferred to the Orissa Tributary States.

§ Owing to the transfer of five States to the Central Provinces and of two others to the Orissa Tributary States, the Chotā Nāgpur States now include only the States of Kharsāwān and Saraikelā.

‖ In 1906 Sikkim was placed under the direct control of the Government of India.

TABLE II A. Distribution of Population in Bengal, 1901

Administrative Divisions and Districts.	Area in square miles.	Number of towns.	Number of villages.	Total Population.			Urban Population.			Persons per square mile in rural areas.
				Males.	Females.	Total.	Males.	Females.	Total.	
Burdwān	2,689	6	3,662	764,742	767,733	1,532,475	47,308	39,420	86,728	570
Bīrbhūm	1,752	1	3,317	444,689	457,591	902,280	4,703	3,989	8,692	515
Bankurā	2,621	3	5,592	549,484	566,927	1,116,411	26,086	27,189	53,275	426
Midnapore	5,186	7	8,464	1,390,233	1,398,881	2,789,114	46,457	43,419	89,876	538
Hooghly	1,191	8	2,383	528,279	521,003	1,049,282	76,795	57,097	133,892	881
Howrah	510	2	1,451	439,525	410,989	850,514	111,287	64,969	176,256	1,668
Total, Burdwān Division	13,949	27	24,869	4,116,952	4,123,124	8,240,076	312,636	236,083	548,719	591
Twenty-four Parganas	4,844	25	5,082	1,092,916	985,443	2,078,359	232,004	166,126	398,130	429
Calcutta	32	1	...	562,596	285,200	847,796	562,596	285,200	847,796	26,494
Nadiā	2,793	9	3,411	827,509	839,982	1,667,491	46,386	48,969	95,355	597
Murshidābād	2,143	5	3,668	653,346	679,838	1,333,184	39,123	36,785	75,908	622
Jessore	2,925	3	4,894	914,025	899,130	1,813,155	11,711	9,588	21,299	620
Khulnā	4,765	3	3,441	653,470	599,573	1,253,043	13,409	10,827	24,236	263
Total, Presidency Division	17,502	46	20,496	4,703,862	4,289,166	8,993,028	905,229	557,495	1,462,724	514
Rājshāhi*	2,593	2	6,344	741,690	720,717	1,462,407	16,160	14,083	30,243	564
Dinājpur*	3,946	1	7,841	823,972	743,108	1,567,080	8,067	5,363	13,430	397
Jalpaigurī*	2,962	2	766	422,877	364,503	787,380	6,513	3,776	10,289	266
Darjeeling	1,164	2	569	133,005	116,112	249,117	12,659	8,734	21,393	214
Rangpur*	3,493	6	5,212	1,125,109	1,029,072	2,154,181	18,892	10,592	29,484	617
Bogra*	1,359	2	3,865	437,349	417,184	854,533	6,319	4,879	11,198	629
Pābna*	1,839	2	3,720	709,396	711,065	1,420,461	22,209	19,329	41,538	772
Total, Rājshāhi Division*	17,356	17	28,317	4,393,398	4,101,761	8,495,159	90,819	66,756	157,575	489
Dacca*	2,782	2	7,263	1,312,417	1,337,105	2,649,522	67,331	47,683	115,014	952
Mymensingh*	6,332	8	9,770	2,014,805	1,900,263	3,915,068	59,733	45,664	105,397	618
Farīdpur*	2,281	2	5,283	970,164	967,482	1,937,646	16,238	12,874	29,112	849
Backergunge*	4,542	5	4,612	1,175,903	1,115,849	2,291,752	30,996	14,578	45,574	505
Total, Dacca Division*	15,937	17	26,928	5,473,289	5,320,699	10,793,988	174,298	120,799	295,097	677
Tippera*	2,499	3	5,361	1,085,989	1,032,002	2,117,991	28,656	19,790	48,446	848
Noākhāli*	1,644	1	2,633	568,777	572,951	1,141,728	4,303	2,217	6,520	694
Chittagong*	2,492	2	1,450	641,392	711,858	1,353,250	15,540	10,445	25,985	543
Chittagong Hill Tracts*	5,138	...	296	68,238	56,524	124,762	...	...	...	24
Total, Chittagong Division*	11,773	6	9,740	2,364,396	2,373,335	4,737,731	48,499	32,452	80,951	402

Patna	2,075	7	4,952	804,583	820,402	1,624,985	124,020	127,093	251,113	783
Gayā	4,712	8	7,871	1,011,271	1,048,662	2,059,933	57,377	57,048	114,425	437
Shāhābād	4,373	6	5,515	936,544	1,026,152	1,962,696	55,355	62,751	118,106	449
Sāran	2,674	4	5,855	1,095,288	1,314,221	2,409,509	39,135	41,985	81,120	901
Champāran	3,531	2	2,623	885,607	904,856	1,790,463	20,341	18,085	38,426	507
Muzaffarpur	3,035	4	4,120	1,318,547	1,436,243	2,754,790	44,733	43,322	88,055	908
Darbhangā	3,348	4	3,233	1,416,474	1,496,137	2,912,611	52,182	51,210	103,392	870
Total, Patna Division	23,748	35	34,169	7,468,314	8,046,673	15,514,987	393,143	401,494	794,637	653
Monghyr	3,922	4	2,516	1,011,580	1,057,224	2,068,804	35,633	35,803	71,436	527
Bhāgalpur	4,226	2	3,063	1,027,535	1,061,418	2,088,953	42,618	38,880	81,498	494
Purnea	4,994	3	3,355	958,452	916,342	1,874,794	17,498	13,941	31,439	375
Mālda*	1,899	3	3,555	437,639	446,391	884,030	17,654	16,772	34,426	466
Santāl Parganas	5,470	3	9,167	896,373	913,364	1,809,737	12,317	10,919	23,236	331
Total, Bhāgalpur Division	20,511	15	21,656	4,331,579	4,394,739	8,726,318	125,720	116,315	242,035	425
Cuttack	3,654	3	5,517	995,409	1,067,349	2,062,758	41,077	37,643	78,720	565
Balasore	2,085	2	3,358	517,543	553,654	1,071,197	19,635	19,763	39,398	514
Angul	1,681	...	1,449	95,935	95,976	191,911	...	...	...	114
Purī	2,499	1	3,101	506,839	510,445	1,017,284	25,932	23,402	49,334	407
Total, Orissa Division	9,919	6	13,425	2,115,726	2,227,424	4,343,150	86,644	80,808	167,452	438
Hazāribāgh	7,021	3	8,848	570,122	607,839	1,177,961	17,922	17,909	35,831	168
Rānchī	7,128	4	3,173	577,180	610,745	1,187,925	20,680	20,128	40,808	167
Palāmau	4,914	2	3,184	306,203	313,397	619,600	5,107	4,340	9,447	126
Mānbhūm	4,147	3	5,521	653,336	648,028	1,301,364	13,866	12,473	26,339	314
Singhbhūm	3,891	1	3,150	302,425	311,154	613,579	4,326	4,327	8,653	158
Total, Chota Nagpur Division	27,101	13	23,876	2,409,266	2,491,163	4,900,429	61,901	59,177	121,078	181
Total, British Territory	157,796	182	203,476	37,376,782	37,368,084	74,744,866	2,198,889	1,671,379	3,870,268	474
Cooch Behār	1,307	4	1,192	301,382	265,592	566,974	9,130	4,930	14,060	434
Tributary States, Orissa	14,387	4	11,805	969,973	977,829	1,947,802	11,632	10,910	22,542	135
Tributary States, Chotā Nāgpur	16,014	...	4,603	506,759	494,670	1,001,429	...	...	...	63
Hill Tippera*	4,086	1	1,463	92,495	80,830	173,325	5,847	3,666	9,513	42
Sikkim	2,818	...	125	30,795	28,219	59,014	...	...	...	21
Total, Native States	38,612	9	19,188	1,901,404	1,847,140	3,748,544	26,609	19,506	46,115	97
GRAND TOTAL	196,408	191	222,664	39,278,186	39,215,224	78,493,410	2,225,498	1,690,885	3,916,383	400

NOTE.—The figures for area and density differ from those shown in the *Census Report* in some cases in which more exact figures have become available on account of the completion of recent survey operations and other causes. The area of the Sundarbans is estimated at 6,526 square miles, of which 2,941, 2,688, and 897 lie respectively in the Twenty-four Parganas, Khulnā, and Backergunge* Districts. If this tract be excluded, the density of these Districts is respectively 1,093, 603, and 628 persons to the square mile, and of the whole Province (British territory) 494 to the square mile.

TABLE III

Statistics of Canals in Bengal

Canals.	Area irrigated (in square miles).	Receipts, in thousands of rupees.		Working expenses, in thousands of rupees.	Net revenue, in thousands of rupees.	Percentage of net revenue on capital outlay.
		Irrigation.	Navigation.			
		Average for ten years ending 1889-90.				
Son	447	6,70	63	6,15	+ 1,45	+ 0·57
Orissa	172	1,34	84	3,90	− 1,55	− 0·69
Midnapore	128	1,10	1,28	2,26	+ 26	+ 0·31
		Average for ten years ending 1899-1900.				
Son	645	8,69	72	6,59	+ 3,10	+ 1·15
Orissa	256	2,51	1,53	4,89	− 63	− 0·24
Midnapore	119	1,25	1,23	2,41	+ 28	+ 0·33
		Year 1900-1.				
Son	675	10,39	37	6,24	+ 4,86	+ 1·82
Orissa	319	2,88	90	4,52	− 44	− 0·17
Midnapore	125	1,19	98	1,72	+ 61	+ 0·72
		Year 1903-4.				
Son	791	12,51	23	5,38	+ 7,86	+ 2·94
Orissa	328	3,26	70	3,83	+ 45	+ 0·17
Midnapore	145	1,49	47	1,50	+ 70	+ 0·82

TABLE IV

Prices of Staples in Bengal

(In seers per rupee)

Selected staples.	Selected centres.	Average price in seers per rupee for the decade ending			Average for the year 1903-4.
		1880.	1890.	1900.	
Rice (common).	Burdwān	18·23	21·09	14·59	11·63
	Calcutta	13·66	14·60	10·82	9·41
	Rangpur*	19·57	17·63	12·02	13·10
	Dacca*	16·91	18·43	13·23	14·71
	Patna	18·64	18·60	15·73	14·97
	Cuttack	22·56	21·21	15·34	17·06
Wheat	Burdwān	14·85	14·62	12·69	13·25
	Calcutta	13·74	14·17	11·26	11·98
	Rangpur*	16·23	15·62	10·93	12·23
	Dacca*	13·95	14·84	11·23	17·00
	Patna	19·32	19·47	15·27	16·49
	Cuttack	15·17	15·37	10·97	14·04
Barley	Calcutta	20·81	21·13	15·75	15·51
	Dinājpur*	18·15	18·59	15·33	...
	Patna	27·77	28·94	21·46	25·06
Jowār	Calcutta	16·69	19·44	16·02	16·25
	Patna	28·78	22·95	21·76	24·80
Maruā	Patna	...	25·81	23·70	26·33
	Muzaffarpur	24·62	29·28	19·93	27·75
	Hazāribāgh	29·54	30·61	21·37	25·70
Maize	Calcutta	18·48	22·15	16·50	16·68
	Patna	27·41	29·33	22·82	26·00
Gram	Burdwān	18·25	20·78	15·92	16·42
	Calcutta	16·31	19·24	14·08	14·69
	Rangpur*	13·26	15·11	13·54	14·62
	Dacca*	16·95	17·26	13·28	15·54
	Patna	24·98	26·67	19·56	21·00
	Cuttack	21·67	19·66	15·96	18·30
Salt	Burdwān	9·26	12·02	11·27	13·33
	Calcutta	9·93	12·08	10·66	11·17
	Rangpur*	7·54	10·62	9·29	11·31
	Dacca*	8·74	11·23	9·74	11·19
	Patna	8·08	10·60	10·87	11·25
	Cuttack	10·51	12·34	10·68	14·50
Piece-goods.		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Grey shirtings, Calcutta, 8¼ lbs.	. . .	4-12-0	4-6-6	5-0-3	...

Note.—A seer is 2·057 lb.

TABLE V

TRADE OF BENGAL WITH OTHER PROVINCES AND STATES IN INDIA

(In thousands of rupees)

	By sea (exclusive of Government stores and treasure).			By rail and river.		
	1890-1.	1900-1.	1903-4.	1890-1.	1900-1.	1903-4.
Imports (Foreign and Indian goods) . .	3,32,37	4,60,00	4,75,33	13,46,91	21,85,86	26,36,88
Cotton, raw . . .	49,47	5,09	7,11	1,11,65	79,39	1,58,87
" twist and yarn .	47,36	59,68	44,19	2,05	40,68	35,37
" piece-goods .	35,24	57,67	54,83	9,29	24,03	31,69
" other manufactures . .	1,60	2,02	2,35	...	70	7,27
Grain and pulse . .	2,68	38,67	5,79	92,68	1,38,40	3,94,69
Hides and skins . .	4,31	4,84	80	60,16	1,40,30	1,05,06
Metals and manufactures of metals . . .	5,63	21,11	13,08	40,47	52,38	85,50
Oils	9,30	74,14	1,71,38	1,60	11,15	10,07
Oilseeds . . .	43,52	23,12	16,52	1,43,12	2,52,46	2,88,53
Opium	...	...	...	2,32,94	3,12,36	3,38,78
Provisions . . .	3,03	5,82	6,04	60,24	91,52	1,12,75
Salt	18,12	17,58	10,55	2,61	22,24	19,08
Spices	15,50	30,19	29,73	1,33	10,29	46,47
Sugar	5,96	19,37	13,06	4,82	64,03	67,64
Tea	2	8	38	3,43,60	4,66,38	5,53,36
Wood	44,10	46,63	41,82	...	20,55	22,97
Woollen goods . .	68	81	29	5,70	89,10	31,83
All other articles . .	45,85	53,18	57,41	2,34,65	3,69,90	3,26,95
Treasure . . .	11,10	7,46	4,27	Not registered.	3,38,66	4,21,82
Exports (Foreign and Indian goods) . .	5,36,76	7,16,30	6,44,68	11,93,30	19,52,91	18,05,29
Coal and coke . .	9,97	1,43,69	1,13,24	25,05	88,75	1,39,48
Cotton goods . .	64,92	36,00	42,09	5,77,21	4,51,73	5,96,38
Grain and pulse . .	1,66,08	1,93,30	1,18,19	46,43	4,97,68	81,80
Jute and manufactures of jute . . .	1,25,59	1,25,18	1,36,59	35,65	90,20	1,41,00
Metals and manufactures of metals . . .	11,98	12,51	18,73	1,55,69	1,58,32	1,77,26
Oils	1,78	6,60	15,77	31,10	64,46	66,85
Provisions . . .	14,86	23,27	31,22	35,15	66,45	41,96
Spices	30,41	42,99	44,47	35,82	54,83	55,62
Sugar	2,22	2,33	1,76	52,98	88,32	1,11,40
Tobacco . . .	11,69	27,81	25,04	27,00	42,99	43,09
All other articles . .	97,26	1,02,62	97,58	1,71,22	3,49,18	3,50,45
Treasure . . .	1,02,43	68,03	59,20	Not registered.	1,35,89	1,52,61

TABLE VI

Foreign Maritime Trade of Bengal, exclusive of Government Stores and Treasure

(In thousands of rupees)

	1890-1.	1900-1.	1903-4.
Imports	26,08,03	31,86,91	33,64,54
Animals, living	11,42	20,83	20,19
Apparel	42,30	44,61	47,83
Cotton twist and yarn	1,02,56	73,52	49,69
" piece-goods	13,39,10	14,55,90	14,43,56
" other manufactures	16,09	61,07	66,84
Drugs, medicines, and narcotics	23,55	44,73	47,54
Glass and glass-ware	21,54	29,14	31,34
Liquors	48,02	48,92	49,71
Machinery and mill-work	81,32	1,01,81	1,41,70
Metals and manufactures of metals, including hardware and cutlery	2,68,58	3,96,72	4,98,35
Oils	1,48,24	1,79,92	1,51,96
Provisions	27,62	35,35	34,31
Railway plant and rolling-stock	27,93	58,57	39,18
Salt	63,62	45,88	54,45
Spices	26,56	42,47	27,74
Sugar	69,01	1,59,99	1,83,90
Woollen goods	75,10	86,78	71,53
All other articles	2,15,47	3,00,70	4,04,72
Treasure	3,91,84	5,74,93	9,47,69
Exports (Indian and Foreign goods)	37,25,93	55,14,44	59,96,10
Coal and coke	2,62	59,22	38,12
Cotton and cotton manufactures	1,12,65	77,44	1,27,59
Grain and pulse	4,11,46	4,68,65	6,50,04
Hides and skins	2,07,05	5,55,62	4,82,99
Indigo	2,05,11	1,56,90	60,13
Jute and manufactures of jute	10,03,33	18,63,59	21,07,56
Lac (except dye)	78,03	1,04,64	2,68,99
Oils	32,38	30,01	31,86
Oilseeds	3,49,17	4,11,92	4,49,49
Opium	5,97,99	6,12,24	7,04,08
Saltpetre	37,87	33,27	40,11
Silk and silk manufactures	65,51	57,75	53,20
Tea	5,04,11	9,07,50	7,88,17
All other articles	1,18,65	1,75,69	1,93,77
Treasure	16,90	63,74	40,02

TABLE VII

Foreign Land Trade of Bengal

(In thousands of rupees)

	1890-1.	1900-1.	1903-4.
Imports	1,20,13	1,69,13	1,60,62
Animals	15,18	29,10	21,28
Fruits, vegetables, and nuts	4,31	3,23	3,00
Grain and pulse	55,46	78,77	84,52
Hides and skins	3,49	5,43	5,64
Oilseeds	12,78	19,33	14,10
Provisions	6,82	8,29	5,76
All other articles	22,09	24,98	26,32
Treasure	9,90	7,55	5,47
Exports (Indian and Foreign goods)	99,85	1,31,75	97,20
Cotton goods	35,21	46,19	38,77
Metals and manufactures of metals	7,68	11,03	13,01
Provisions	8,72	9,12	4,55
Salt	4,44	10,24	7,19
Spices	8,95	15,54	4,86
Sugar	3,54	5,38	3,55
Tobacco	3,41	7,54	2,26
All other articles	27,90	26,71	23,01
Treasure	2,13	64,65	3,73

TABLE VIII. Statistics of Railways in Bengal

Railway.		Total length open.	Capital expended, in thousands of rupees.	Passengers conveyed, in thousands.	Goods and minerals carried, in thousands of tons.	Gross working expenses, in thousands of rupees.	Net revenue, in thousands of rupees.	Percentage of net revenue on capital.	Percentage of net earnings to gross receipts.	Average cost of construction per mile, in thousands of rupees.
		Miles.								
Eastern Bengal State .	1891	777	11,24,91	8,924	1,069	33,66	65,32	5·81	51·50	1,51
" " " .	1901	968	14,62,52	13,272	1,781	85,08	83,08	5·88	50·05	1,51
" " " .	1903	1,012	15,43,22	14,331	2,654	95,66	92,05	5·90	52·79	1,52
Bengal Central . .	1891	125	99,45	1,537	103	4,84	3,27	3·30	40·38	1,04
" " . .	1901	125	1,29,54	1,885	155	7,62	6,43	4·96	45·75	1,04
" " . .	1903	125	1,31,89	1,989	206	10,01	5,08	3·85	36·54	1,05
Deogarh . . .	1891	5	2,83	218	Not shown.	16	15	5·46	49·50	60
" . . .	1901	5	2,85	329	2	30	19	6·53	38·60	60
" . . .	1903	5	3,01	262	15	30	11	3·65	26.83	60
Bengal-Duārs (opened 1893) . . .	1891	...	16	...	...	...	...	...	...	80
" " "	1901	111	88,71	316	73	2,42	2,45	2·77	50·35	80
" " "	1903	116	1,06,25	442	121	3,28	3,30	3·10	55·18	91
Tārakeswar-Magrā, Limited (opened 1894)	1901	31	9,72	419	9	58	20	2·04	23·92	31
" "	1903	31	10,16	427	17	60	25	2·50	29·41	32
Rānāghāt-Krishnagar, Limited (opened 1899)	1901	20	7,51	226	46	54	15	2·02	21·97	37
" "	1903	20	7,44	247	7	52	34	4·57	39·53	37
Darjeeling-Himālayan .	1891	51	30,60	55	25	3,53	2,58	8·44	42·10	68
" "	1901	51	34,78	74	31	4,74	3,14	9·02	39·80	68
" "	1903	57	36,13	109	41	5,44	4,17	11·54	44·03	70

TABLE VIII. STATISTICS OF RAILWAYS IN BENGAL (*continued*)

Railway.	Total length open.	Capital expended, in thousands of rupees.	Passengers conveyed, in thousands.	Goods and minerals carried, in thousands of tons.	Gross working expenses, in thousands of rupees.	Net revenue, in thousands of rupees.	Percentage of net revenue on capital.	Percentage of net earnings to gross receipts.	Average cost of construction per mile, in thousands of rupees.
	Miles.								
Howrah-Amtā, Limited (opened 1897) . . 1901	29	11,97	762	Nil	1,46	1,14	9·53	43·78	42
" " 1903	29	12,88	808	17	1,39	1,38	10·71	49·82	44
Howrah-Sheakhāla, Ltd. (opened 1897) . . 1901	20	6,10	302	Nil	55	23	3·80	30·65	31
" " 1903	20	6,15	343	7	52	35	5·69	40·23	30
Cooch Behār State (opened 1893) . . . 1891	...	15	...	...	...	...	...	...	41
" " 1901	33·60	13,95	*	*	...	75	5·35	58·52	41
" " 1903	33·60	14,91	†	†	†	†	†	†	†
Tārakeswar . . . 1891	22·23	17,29	1,126	20	1,42	1,63	9·45	53·57	81
" . . . 1901	22·23	17,92	‡	‡	‡	1,58	8·81	47·77	81
" . . . 1903	22·23	17,94	§	§	§	§	§	§	§
South Bihār (opened 1899) . . . 1901	79	1,23,67	‖	‖	‖	‖	2·49	59·98	1,57
" " 1903	79	1,20,02	§	§	§	§	§	§	§
Calcutta Port Commissioners' . . 1891	6·22	50,55	...	Nil	1,47	1,62	3·20	52·60	12,75
" " 1901	7·65	97,55	Nil	750	3,19	2,22	2·27	41·10	12,75
" " 1903	8·50	¶	¶	¶	¶	¶	¶	¶	¶
Bakhtiyārpur-Bihār . 1903	18·50	7,48	117	7	20	15	2·00	42·85	40

* Amalgamated with E. B. S. R. † Amalgamated with E. B. S. R. Separate information not available. ‡ Amalgamated with E. I. R.
§ Amalgamated with E. I. R. Separate information not available. ‖ Information not furnished. ¶ Separate information not available.

TABLE IX

PRINCIPAL SOURCES OF PROVINCIAL REVENUE, BENGAL

(In thousands of rupees)

Heads of revenue.	Average for ten years ending March 31, 1890.		Average for ten years ending March 31, 1900.		Year ending March 31, 1901.		Year ending March 31, 1904.	
	Total amount raised (Imperial, Provincial, and Local).	Amount credited to Provincial revenues.	Total amount raised (Imperial, Provincial, and Local).	Amount credited to Provincial revenues.	Total amount raised (Imperial, Provincial, and Local).	Amount credited to Provincial revenues.	Total amount raised (Imperial, Provincial, and Local).	Amount credited to Provincial revenues.
Land revenue	3,80,73	1,12,45*	3,92,87	91,51	4,08,24	86,87	4,10,03	2,10,43
Salt	2,08,63	1,17	2,45,10	1,22†	2,54,35	...	2,18,01	...
Stamps	1,29,81	87,09	1,65,34	1,24,00	1,84,35	1,38,26	1,98,36	1,48,77
Excise	1,00,13	50,97	1,24,82	41,24	1,46,48	73,24	1,62,96	81,48
Provincial rates	77,50	38,82	89,72	45,24	96,67	47,43	1,02,99	50,40
Assessed taxes	24,72	10,41	46,52	23,26	52,76	26,38	50,36	24,73
Forests	6,51	2,66	9,45	4,72	12,33	6,17	10,66	5,33
Registration	10,60	6,32	14,15	7,07	15,32	7,66	16,66	8,33
State railways	84,96	63,68	2,05,49	72,13†	2,68,91	...	3,26,57	...
Other sources ‡	8,12,81	68,36§	7,51,03	63,64	9,34,82	95,60	10,22,20	1,04,73
Total	18,36,40	4,41,93	20,44,49	4,74,03	23,74,23	4,81,61	25,18,80	6,34,20

* Average for eight years, as a portion of receipts was made Provincial in 1882–3.
† Average for seven years ending 1896–7, during which the Miscellaneous Salt receipts and a portion of state railways receipts were Provincial.
‡ Includes all heads of receipts other than those mentioned above.
§ Includes Imperial allotments. Adjustments between Imperial and Provincial are included under Land Revenue.

TABLE X

Principal Heads of Provincial Expenditure, Bengal

(In thousands of rupees)

	Average for ten years ending March 31, 1890.	Average for ten years ending March 31, 1900.	Year ending March 31, 1901.	Year ending March 31, 1904.
Opening balance	31,10	31,52	38,18	55,29
Charges in respect of collections (principally Land Revenue and Forests)	49,98	61,55	66,26	69,03
Salaries and expenses of Civil Departments—				
(*a*) General administration	15,52	16,99	17,37	19,05
(*b*) Law and Justice	94,06	1,10,22	1,19,64	1,23,82
(*c*) Police	46,37	59,86	60,65	65,72
(*d*) Education	28,93	26,55	28,06	34,42
(*e*) Medical	13,74	18,33	21,47	21,48
(*f*) Other heads	13,20	13,55	15,01	17,84
Pensions and miscellaneous civil charges	24,46	33,00	37,27	41,70
Famine relief	32	4,94	2,26	...
Irrigation	49,17	52,99	49,45	52,37
Public works	42,87	33,67	39 81	76,05
Other charges and adjustments	64,73	42,24	19,93	25,49
Total expenditure	4,43,35	4,73,89	4,77,18	5,46,97
Closing balance	29,68	31,66	42,61	1,42,52

TABLE XI

Income and Expenditure of District Boards*, Bengal

	Average for ten years ending 1900.	1900-1.	1903-4.
Income from—	Rs.	Rs.	Rs.
Provincial rates	37,05,064	42,35,060	44,78,981
Interest	26,662	47,139	43,696
Pounds	4,52,055	4,73,430	4,93,423
Education	53,889	66,374	89,351
Medical	22,934	34,585	65,312
Scientific, &c.	4,970	10,802	20,584
Stationery and printing	480	661	804
Miscellaneous	1,87,863	1,85,366	1,95,330
Public works †	5,30,267	8,01,714	9,15,070
Ferries	4,09,855	4,86,727	5,07,371
Contributions ‡	6,38,702	6,26,313	10,53,195
Other heads	7,42,760	4,29,996	5,39,771
Total income	67,75,501	73,98,167	84,02,888
Expenditure on—			
General administration	2,84,900	2,80,259	3,11,396
Pounds	24,856	21,829	28,416
Education	11,41,008	12,91,247	18,19,584
Medical	2,00,676	4,59,422	4,09,277
Scientific, &c.	14,644	25,765	48,659
Superannuation pensions and allowances	9,579	20,731	32,025
Stationery and printing	48,003	41,454	40,569
Miscellaneous	52,700	55,585	42,322
Public works §	41,35,444	45,36,741	48,72,292
Contributions ‖	88,394	1,22,048	62,975
Other heads	7,58,932	5,15,989	6,55,673
Total expenditure	67,59,136	73,71,070	83,23,188

* The income and expenditure in 1903-4 of the District boards contained in the present area of Bengal was Rs. 57,13,574 and Rs. 56,20,986 respectively.

† Includes sums collected by Civil officers as fees and rent, &c., and contributions by Government and private individuals for particular works.

‡ Special Government grants.

§ Expenditure on roads, bridges, buildings, &c.

‖ Contributions towards the cost of plague camps, refunds of unspent balances of contributions made for special purposes, and the like.

TABLE XII

Income and Expenditure of Municipalities*, Bengal, including Calcutta

(In thousands of rupees)

	Average for ten years ending 1900.	1900-1.	1903-4.
Income from—			
Tax on houses and lands	25,93	31,03	35,08
Other taxes	39,58	48,00	54,47
Rents	98	1,34	1,44
Loans	18,72	4,34	56,42
Other sources	29,22	28,62	35,53
Total income	1,14,43	1,13,33	1,82,94
Expenditure on—			
Administration and collection of taxes	8,36	8,90	11,59
Public safety	6,67	7,89	8,26
Water-supply and drainage:			
(*a*) Capital	12,62	7,68	17,43
(*b*) Maintenance	6,54	8,82	8,40
Conservancy	19,55	23,38	29,29
Hospitals and dispensaries	3,50	4,91	5,69
Public works	16,97	11,82	25,48
Education	1,40	1,35	1,73
Other heads	37,25	45,43	62,21
Total expenditure	1,12,86	1,20,18	1,70,08

* In 1903-4 the income of the municipalities in Bengal as now constituted was Rs. 1,73,60,503, and the expenditure was Rs. 1,61,34,060.

TABLE XIII

STATISTICS OF JAILS, BENGAL

	1881.	1891.	1901.	1903.	1903, present area.
Number of Central jails	9	7	8	8	6
Number of District jails	37	39	40	40	29
Number of Subsidiary jails (lock-ups) .	82	86	88	89	67
Average daily jail population:—					
(*a*) Male prisoners:					
In Central jails .	7,607	7,753	10,279	9,454	7,689
In District jails .	7,852	6,916	9,378	8,597	5,716
In Sub-jails .	624	824	1,204	1,107	725
(*b*) Female prisoners:					
In Central jails .	294	132	168	117	102
In District jails .	339	267	326	249	217
In Sub-jails .	31	24	39	34	27
Total	16,747	15,916	21,394	*19,558	14,476
Rate of jail mortality per 1,000 . .	68.6	31·4	27·7	23·7	22·4
	Rs.	Rs.	Rs.	Rs.	Rs.
Expenditure on jail maintenance . .	9,10,377	10,82,683	16,25,171	15,87,645	11,12,239
Cost per prisoner .	54	68	76	81	76
Profits on jail manufactures (net) . .	5,25,969	3,64,914	5,84,174	5,38,247	4,59,330
Earnings per prisoner .	34	26	31	32	36

* The decrease is due to the release of 3,003 prisoners on the occasion of the celebration of the Coronation of H M. the King Emperor.

TABLE XIV

Statistics of Educational Expenditure, Bengal

Class of institutions.	Expenditure on institutions maintained or aided by public funds (in lakhs of rupees).				
	Provincial revenues.	District and municipal funds.	Fees.	Other sources.	Total.
Arts and professional colleges: 1900–1	4·79	...	4·93	1·65	11·37
1903–4	5·87	...	4·92	1·94	12·73
Training and special schools*: 1900–1	3·30	0·27	0·73	2·02	6·32
1903–4	4·10	0·27	1·21	1·89	7·47
Secondary boys' schools: 1900–1	3·95	2·29	20·57	9·03	35·84
1903–4	4·42	2·42	23·21	7·94	37·99
Primary boys' schools: 1900–1	1·23	6·15	17·73	4·53	29·64
1903–4	1·66	9·63	19·70	4·44	35·43
Girls' schools: 1900–1	1·70	0·47	1·62	2·89	6·68
1903–4	2·07	0·92	1·75	2·69	7·43
Total 1900–1	14·97	9·18	45·58	20·12	89·85
Total 1903–4	18·12	13·24	50·79	18·90	101·05

In 1903–4 the corresponding expenditure (in lakhs of rupees) in Bengal as now constituted was:—

Class of institutions.	Provincial revenues.	District and municipal funds.	Fees.	Other sources.	Total.
Arts and professional colleges . . .	5·61	...	4·17	1·70	11·48
Training and special schools . . .	3·44	0·10	0·73	1·53	5·80
Secondary boys' schools* . . .	2·70	1·64	14·50	4·85	23·69
Primary boys' schools*	1·27	6·67	13·06	3·09	24·09
Girls' schools* . .	0·89	0·51	0·36	1·70	3·46
Total	13·91	8·92	32·82	12·87	68·52

* Excluding figures for European schools.

TABLE XV. Colleges, Schools, and Scholars, Bengal

Class of institutions.	1890–1.			1900–1.			1903–4.		
	Number of institutions.	Scholars. Males.	Scholars. Females.	Number of institutions.	Scholars. Males.	Scholars. Females.	Number of institutions.	Scholars. Males.	Scholars. Females.
Public.									
Arts colleges . .	34	5,213	19	44	8,150	49	46	7,927	82
Professional colleges .	14	1,472	21	20	2,241	23	19	2,493	16
Secondary schools:—									
Upper (High) . .	375	77,610	1,117	516	113,731	1,466	580	124,761	1,568
Lower (Middle) .	2,104	124,326	4,415	2,012	123,242	4,097	1,950	127,590	4,074
Primary schools: Upper	3,824	125,955	12,244	4,435	172,276	11,326	5,071	211,301	14,218
" " Lower	45,931	914,902	62,561	44,446	989,006	79,364	48,695	1,129,020	132,764
Training schools . .	32	940	257	27	734	498	155	1,543	691
Other special schools .	249	5,775	59	566	13,900	34	722	19,047	170
Private.									
Advanced . . .	2,800	31,853	237	2,375	26,043	221	2,092	25,352	354
Elementary . . .	10,587	92,339	7,628	7,701	85,344	6,583	6,770	81,580	8,323
Total	65,950	1,380,385	88,558	62,142	1,534,667	103,661	66,100	1,730,614	162,260

The statistics of 1903–4 for the present area of Bengal are as follows:—

Class of institutions.	Number of institutions.	Scholars. Males.	Scholars. Females.	Remarks.
Public.				
Arts colleges	37	6,484	82	
Professional colleges . . .	15	2,269	16	
Secondary schools:—Upper (High)*	381	78,859	412	
" " Lower (Middle)*	1,100	72,148	1,001	
Primary schools: Upper* . .	2,936	121,669	11,481	* Separate figures for 17 High schools, 42 Middle schools, 18 Upper Primary schools, and 3 Lower Primary schools established for Europeans have been excluded.
" " Lower* . .	33,253	772,740	83,388	
Training schools	119	1,137	691	
Other special schools . . .	440	10,659	161	
Private.				
Advanced and elementary . .	5,118	51,754	1,660	
Total	43,399	1,117,719	98,892	

TABLE XVI

STATISTICS OF HOSPITALS, LUNATIC ASYLUMS, AND VACCINATION, BENGAL

	1881.	1891.	1901.	1903.	1903, present area.
*Hospitals, &c.**					
Number of civil hospitals and dispensaries	237	283	567	614	375
Average daily number of—					
(*a*) In-patients	2,091	2,652	3,456	3,524	2,970
(*b*) Out-patients	9,395	12,160	25,970	29,227	18,847
Income from—					
(*a*) Government payments . Rs.	3,74,773	3,47,445	8,74,616	8,10,505	7,56,740
(*b*) Local and municipal payments . Rs.	1,93,402	3,65,384	7,09,911	7,84,440	6,04,858
(*c*) Fees, endowments, and other sources Rs.	3,25,684	2,97,358	6,63,872	9,67,968	6,91,726
Expenditure on—					
(*a*) Establishment . Rs.	4,09,803	4,37,662	8,22,629	8,91,289	7,09,513
(*b*) Medicines, diet, buildings, &c. . Rs.	4,02,783	5,20,221	12,50,347	14,30,758	11,93,019
Lunatic Asylums.					
Number of asylums	6	6	6	6	5
Average daily number of—					
(*a*) Criminal lunatics	277	455	517	543	391
(*b*) Other lunatics	616	580	469	510	391
Income from—					
(*a*) Government payments . Rs.	87,479	92,165	1,18,960	1,16,357	91,344
(*b*) Fees and other sources Rs.	28,464	27,985	20,556	20,408	19,236
Expenditure on—					
(*a*) Establishment . Rs.	55,633	43,978	45,769	46,649	38,554
(*b*) Diet, buildings, &c. Rs.	60,310	76,173	93,747	90,116	72,026
	1880-1.	1890-1.	1900-1.	1903-4.	
Vaccination.†					
Population among whom vaccination was carried on	36,892,735	62,782,913	73,843,197	77,624,647	Not ascertainable.
Number of successful operations	1,363,925	1,805,096	2,248,015	2,662,477	
Ratio per 1,000 of population	37	28	30	34	
Total expenditure on vaccination . Rs.	1,11,066	1,82,400	1,88,114	2,03,281	
Cost per successful case Rs.	0-1-3	0-1-7	0-1-4	0-1-2	

* The figures for hospitals, &c., include the institutions in Calcutta.
† The figures for vaccination include those for the States of Orissa and Chotā Nāgpur in which vaccination is carried on.

Berā.—Village in the Sirājganj subdivision of Pābna District, Eastern Bengal and Assam, situated in 24° 5′ N. and 89° 38′ E., at the junction of the Ichāmatī, Baral, and Hurāsāgar rivers. Population (1901), 1,675, and including its adjacent hamlets, 5,417. Berā is a market with a considerable trade, especially in jute, and two European firms have branches here.

Berār (otherwise known as the Hyderābād Assigned Districts).—A province, lying between 19° 35′ and 21° 47′ N. and 75° 59′ and 79° 11′ E., which has been administered by the British Government on behalf of His Highness the Nizām of Hyderābād since 1853. It consists of a broad valley running east and west, between two tracts of hilly country, the Gāwīlgarh hills (the Melghāt) on the north, and the Ajanta range (the Bālāghāt) on the south. The old name of the central valley was Pāyānghāt; and these three names—Melghāt, Pāyānghāt, and Bālāghāt—will be used to define the three natural divisions of the province. The area of Berār is 17,710 square miles.

The origin of the name Berār, or Warhād as it is spelt in Marāthī, is not known. It may possibly be a corruption of Vidarbha, the name of a large kingdom in the Deccan, of which the modern Berār probably formed part in the age of the Mahābhārata. The popular derivation from certain eponymous Warhādīs, who accompanied Rukmin and Rukminī to Amraotī when the latter went to pay her vows at the temple of Ambā Devī before her projected marriage to Sisupāla, must be set aside as purely fanciful; and Abul Fazl's derivation of the name from Wardhā, the river, and *tat*, a 'bank,' is of no more value.

Berār is bounded on the north by the Sātpurās and the Tāpti, which separate it from the Central Provinces; on the east, where again it adjoins the Central Provinces, by the Wardhā; along the greater part of its southern frontier, where it adjoins the Hyderābād State, by the Pengangā; while on the west an artificial line cutting across the broad valley from the Sātpurā Hills to the Ajanta range, and produced southwards over those hills, separates it from the Bombay Presidency and Hyderābād.

Physical aspects.

The Gāwīlgarh hills attain their greatest height along the southernmost range, immediately overlooking the Pāyānghāt, where the average elevation is about 3,400 feet, the highest summit being 3,989 feet. These hills decrease in height as they stretch away towards the north, the average elevation of the range overlooking the Tāpti being no more than 1,650 feet. The plateaux of the Bālāghāt do not attain the height of the hills of the Melghāt, the elevation of Buldāna, Bāsim, and Yeotmāl being only 2,190 feet, 1,758 feet, and 1,583 feet, respectively. The general declination of the Bālāghāt table-land is from west to east, or in the direction of the Wardhā river, that of the Gāwīlgarh hills being in the contrary direction.

The principal rivers of Berār are the Tāpti, the Pūrna, the Wardhā, and the Pengangā. The Tāpti runs from east to west and the Pengangā from west to east, each following the general declination of the range from which it receives its principal affluents. The Wardhā rises in the Sātpurās and flows in a southerly direction, receiving the Pengangā at the south-eastern corner of the province. The Pūrna, which is a tributary of the Tāpti, drains the Pāyānghāt, rising in the lower slopes of the Gāwīlgarh hills in Amraotī District, and running westward through the valley until it leaves the province at the northernmost corner of the Malkāpur *tāluk*. The Pengangā rises in the hills near Deūlghāt in Buldāna District, traverses that District in a south-easterly direction, and enters the Bāsim *tāluk* near Wākad. From Yeotī eastwards it forms the southern boundary of Berār till it meets the Wardhā at Jugād. Its prinicpal tributaries are the Pūs, Arna, Arān, Wāghārī, Kūnī, and Vaidarbha, which rise in the Bālāghāt and flow to meet it in a south-easterly direction.

The only lake in Berār is the salt lake of Lonār in Buldāna District.

The scenery of the Pāyānghāt is monotonous and uninteresting. The wide expanse of black cotton soil, slightly undulating, is broken by few trees except *babūls* and groves near villages. In the autumn the crops give it a fresh and green appearance; but after the harvest the monotonous scene is unrelieved by verdure, shade, or water, and the landscape is desolate and depressing. The Bālāghāt is more varied and pleasing, though here also the country has a parched and arid appearance in the hot season. The ground is less level and the country generally is better wooded. It stretches in parts into downs and dales, or is broken up into flat-topped hills and deep ravines, while in its eastern section the country is still more sharply featured by a splitting up of the main hill range, which has caused that variety of low-lying plains, high plateaux, fertile bottoms, and rocky wastes found in Wūn District. The scenery of the Melghāt is yet more picturesque, the most striking features of this tract being the abrupt scarps of trap rock near the summits of the hills, the densely wooded slopes, and the steep ravines. The undulating plateaux are rarely of great extent.

[1] With the exception of the south-eastern corner, comprising a portion of Wūn District, the whole of Berār is covered by the Deccan trap flows. In the south-eastern corner the trap has been removed by atmospheric agencies, exposing small patches of the underlying Lameta beds, and the great Godāvari trough of Gondwāna rocks, which are let down into very old unfossiliferous Purāna strata, are regarded as pre-Cambrian in age, and are known in other parts of peninsular India as Vindhyans, Cuddapahs, &c. The Deccan trap is itself covered with

[1] From a note supplied by Mr. T. H. Holland, Director of the Geological Survey of India.

alluvium in the valley of the Pūrna. The groups represented in Berār can be tabulated thus:—

Alluvium . . .	Recent and pleistocene.
Deccan trap . .	Upper Cretaceous or lower eocene.
Lameta . .	Upper Cretaceous.
Gondwāna . .	Permo-carboniferous to Jurassic.
Purāna . . .	Pre-Cambrian.

The old rocks of the Purāna group come to the surface on the south-eastern margin of the great cap of Deccan trap, occupying the border out to the main boundary of the Gondwāna strata. They are covered by two small isolated patches of Deccan trap—outliers south-east of Kāyar—and with some outliers of Gondwāna beds in the Vaidarbha valley and farther west. In one or two small hills in this corner of the province the distinction between the Purāna sandstones and the much later sandstones belonging to the Kamptee division of the Gondwāna system is seen. Yānak hill (1,005 feet) is formed of Purāna sandstones, and several bands of conglomerate occur containing pebbles of hematite, from which the iron ore formerly made at Yānak was obtained. Shales, slates, and limestones of the Purāna group prevail to the west of the sandstone bed in Wūn District, giving some magnificent sections in the Pengangā and its tributaries.

The Gondwāna rocks are especially worthy of notice, on account of their coal-measures. It has been estimated that about 2,100,000,000 tons of coal are available in Wūn District. Direct evidence of the occurrence of coal has been obtained throughout 13 miles of country from Wūn to Pāpūr, and for 10 miles from Junāra to Chincholī. It is estimated that there are 150,000,000 tons above the 500 feet level between Junāra and Chincholī; and the existence of thick coal has been proved in the Barākars which crop out near the Wardhā river, in the south-eastern part of Wūn District.

The Deccan trap, with which the greater part of Berār is covered, was erupted towards the end of Cretaceous times, the volcanic activity stretching on, probably, into the beginning of the Tertiary period. At the base, and stretching beyond the fringe, of the Deccan trap, there is often a fresh-water, or subaerial, formation, composed of clays, sandstones, and limestones, representing the materials formed by weathering or actually deposited in water on the old continent over which the Deccan lava flows spread.

The hollow containing the lake of Lonār in Buldāna District was probably caused by a violent gaseous explosion long after the eruption of the Deccan trap, and in comparatively recent times.

An interesting feature of the alluvial deposits in the valley of the Pūrna is the occurrence of salt in some of the beds at a little depth below the surface. Wells used formerly to be sunk on both sides of

the river for the purpose of obtaining brine from the gravelly layers. The absence of fossils supports the idea that the salt is not derived from marine beds, but is in all probability due to the concentration of the salts ordinarily carried in underground water through the excessive surface evaporation which goes on in these dry areas for most of the year[1].

[2] The Melghāt hills are forest-clad, the constituent vegetation being that characteristic of the Sātpurās generally. The most plentiful species is *Boswellia*, accompanied by *Cochlospermum*, *Anogeissus latifolia*, and *Lagerstroemia parviflora*. Where the soil is deeper more valuable species, such as *Tectona grandis*, *Dendrocalamus strictus*, and, more sparingly, *Hardwickia binata*, are found occupying the valleys and ravines. Scattered throughout the forest occur *Ougeinia dalbergioides*, *Adina cordifolia*, *Stephegyne parvifolia*, *Terminalia tomentosa*, *Schrebera swietenioides*, *Eugenia Jambolana*, *Bridelia retusa*, *Terminalia Chebula*; some heavy creepers, such as *Bauhinia Vahlii*; and species of *Millettia*, *Combretum*, *Vitis*, &c. On lighter gravelly soil, both in Northern and Southern Berār, forests with *Hardwickia binata* are met with. *Pterocarpus Marsupium* occurs near the edges of most of the high plateaux, with occasional trees of *Dalbergia latifolia*.

Where the soil in the Bālāghāt is thin, the slopes and plateaux are covered chiefly with *Boswellia*; but in deeper soil *Anogeissus latifolia*, *Diospyros melanoxylon*, and *Terminalia tomentosa* are the principal species. Along river banks considerable quantities of *Terminalia Arjuna* and *Schleichera trijuga* are sometimes met with. In the bottoms of the ravines are scattered clumps of *Dendrocalamus strictus*. The hills are often bare and grass-clad, the most striking species being large Andropogons, Anthistirias, Iseilemas, &c. In level tracts, mangoes, tamarinds, *mahuās*, and *pīpals* abound, with groves of *Phoenix sylvestris*. Stretches of *babūl* jungle are characteristic of the province. In cultivated ground the weed vegetation is that characteristic of the Deccan, and includes many small *Compositae*.

The principal wild animals are the tiger, the leopard, the hunting leopard, and the wild cat among *Felidae*. Deer and antelopes are represented by the *sāmbar*, the spotted deer, the barking-deer, the common Indian antelope, the *nīlgai*, the four-horned antelope, and the *chinkāra*; and *Canidae* by the Indian wolf, the Indian fox, the wild dog, and the jackal. The striped hyena, the wild hog, and the Indian black or sloth bear are of frequent occurrence, the last especially in the Melghāt. Monkeys are represented by the *langūr*

[1] *Memoirs, Geological Survey of India*, vol. xiii; *Records, Geological Survey of India*, vol. i, part iii; *General Report of the Geological Survey of India* (1902-5).

[2] From a note supplied by Major D. Prain, I.M.S., Director of the Botanical Survey.

and the smaller red monkey, the latter being found in the Melghāt only, while the former is common throughout the province.

The climate differs very little from that of the Deccan generally, except that in the Pāyānghāt the hot season is exceptionally severe. During April and May, and until the rains set in about the middle of June, the sun is very powerful, and there is by day severe heat, but without the scorching winds of Northern India. The nights are comparatively cool throughout, and during the rains the air is moist and fairly cool. The climate of the Bālāghāt is similar to that of the Pāyānghāt, but the thermometer stands much lower than in the plains. On the higher plateaux of the Gāwīlgarh hills, the climate is always temperate, and at the sanitarium of Chikalda the heat is seldom so great as to be unpleasant. The following table shows the average temperature, at two representative stations, in January, May, July, and November:—

Station.	Height of Observatory above sea-level in feet.	Average temperature (in degrees Fahrenheit) for the twenty-five years ending with 1901 in							
		January.		May.		July.		November.	
		Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.	Mean.	Diurnal range.
Amraotī . . .	1,215	71·3	26·5	93·8	27·7	80·7	14·1	74·2	24·9
Akola	930	69·5	31·5	94·4	26·9	81·8	14·8	72·4	30·0

NOTE.—The diurnal range is the average difference between maximum and minimum temperature of each day.

The following table shows, for the same stations, the average rainfall in each month of the year :—

Station.	Average rainfall (in inches) for the twenty-five years ending with 1901 in												
	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total of year.
Amraotī .	0·51	0·24	0·32	0·30	0·57	6·55	9·25	6·82	6·10	2·13	0·51	0·66	33·96
Akola . .	0·47	0·21	0·43	0·18	0·38	5·26	9·90	6·84	6·22	2·55	0·51	0·74	33·69

The rainfall is normally somewhat heavier in the Bālāghāt than in the Pāyānghāt, and considerably heavier in the Melghāt than in either.

History.

Berār was anciently known as Vidarbha, under which name it is mentioned in the Mahābhārata. In this epic the Rājā of Vidarbha, Rukmin, is represented as an arrogant and presumptuous prince, who vainly attempted to prevent the marriage of his sister Rukminī to the demi-god Krishna, and who subsequently so disgusted the Pāndavas by his pretensions that they declined his assistance in their quarrel with the Kauravas, leaving him to retire in dudgeon to his own dominions.

The next mention of Vidarbha is in connexion with the famous Oriental romance of Nala and Damayantī. Nala, Rājā of Nishadha (Mālwā), loved Damayantī, the daughter of Bhīma, Rājā of Vidarbha. It is unnecessary to pursue this story, which is mainly mythical, through its intricacies of detail; but we learn from it that the kingdom of Vidarbha had for its capital a city of the same name, with which the city of Bīdar in the Nizām's Dominions has been identified. If the identification be correct, and it is supported by legend as well as by etymology, we may conclude that the ancient kingdom was far more extensive than the modern province of Berār. Tradition says that its kings bore sway over the whole of the Deccan.

The authentic history of Berār commences with the Andhras or Sātavāhanas, of whose dominions it undoubtedly formed part. In the third century B.C., the Andhras occupied the deltas of the Godāvari and Kistna, and were one of the tribes on the outer fringe of Asoka's empire. Soon after the death of that great ruler their territory was rapidly enlarged, and their sway reached Nāsik. The twenty-third king, Vilivāyakura II (A.D. 113–38), successfully warred against his neighbours, the western Satraps of Gujarāt and Kāthiāwār, whose predecessors had encroached on the Andhra kingdom. A few years later, however, the Satraps were victorious and the Andhra rule appears to have come to an end about 236. The next rulers of the province of whom records have survived were the Rājās of the Vākātaka dynasty, of whom there were ten. This dynasty was probably feudatory to the Vallabhīs, but their chronology is very uncertain. The Abhīras or Ahīrs, who succeeded the Vākātakas, are said to have reigned as independent sovereigns for only sixty-seven years; but Ahīr and Gaoli chieftains continued long afterwards to hold important forts in Berār and the neighbouring country, giving their names to their strongholds, as in the case of Gaoligarh in Khāndesh, Asīrgarh (Asa Ahīr Garh) in the Central Provinces, and Gāwīlgarh in Berār. The Chālukyas next rose to power in the Deccan. Their dominions included Berār, and they reigned until 750, when they were overthrown by the Rāshtrakūtas, who ruled till 973, when the Chālukyas regained their ascendancy, which they retained, though not without vicissitudes, for two centuries. On the death, in 1189, of Somesvara IV, the last Rājā of the restored Chālukya line, his dominions were divided between the Hoysala Ballālas of the south, whose capital was Dorasamudra or Dwārāvatipura[1], and the Yādavas of Deogiri, the modern Daulatābād, Berār naturally falling to the share of the latter. Rājā Bhillama I, the founder of this dynasty, established himself at Deogiri in 1188; and the Yādavas had reigned with some renown for rather more than a century, when, in

[1] Halebīd, in Hassan District, Mysore.

the reign of Rāmchandra, the sixth Rājā, the Deccan was invaded by the Musalmāns.

In 1294 Alā-ud-dīn, the nephew and son-in-law of Fīroz Shāh Khiljī, Sultān of Delhi, invaded the Deccan by way of Chanderī and Ellichpur. After defeating the Yādava Rājā Rāmchandra, styled Rāmdeo by Muhammadan historians, at Deogiri, he was attacked by the Rājā's son, whom also he defeated. He was then bought out of the country by a heavy ransom, which included the cession of the revenues of Ellichpur, the district remaining under Hindu administration. On his return to Hindustān Alā-ud-dīn murdered his uncle at Karā and usurped the throne. Throughout his reign he dispatched successive expeditions into the Deccan, but in the confusion which followed his death in 1316 Harpāl Deo of Deogiri rose in rebellion. He was defeated by Kutb-ud-dīn Mubārak Shāh I in 1317–8, and was flayed alive, his skin being nailed to one of the gates of Deogiri. His dominions were annexed to the Delhi empire, and thus Berār for the first time became a Muhammadan possession, which it has remained ever since. Berār gained considerably in importance during the reign of Muhammad bin Tughlak of Delhi, who in 1327 transferred the capital of his empire from Delhi to Daulatābād (Deogiri). In the latter years of this emperor's reign the Amīrs of the Deccan rebelled, and in 1348 Hasan Gangū, Zafar Khān, was proclaimed Sultān of the Deccan under the title of Alā-ud-dīn Bahman Shah[1].

Alā-ud-dīn Bahman, shortly after he had ascended the throne, divided his kingdom into four provinces or *tarafs*, of which Berār, which included Māhūr, Rāmgarh, and Pāthrī, was the northernmost. During the next 130 years Berār furnished contingents in the innumerable wars waged by the Bahmani kings against the Rājās of Vijayanagar, Telingāna, Orissa, and the Konkan, the Sultāns of Gujarāt, Mālwā, and Khāndesh, and the Gonds. It was overrun by Musalmāns from the independent kingdoms on its northern frontier, by Gonds from Chānda, and by Hindus from Telingāna. Ahmad Shāh Walī, the ninth king of the Bahmani dynasty, found it necessary to recapture the forts of Māhūr and Kalam in Eastern Berār, which had fallen into the hands of the infidels. In 1478 or 1479 Berār, which had hitherto been an important province with a separate army and governed by nobles of high rank and position, was divided into two governments, each of which was known by the name of its fortress capital, the northern being called Gāwīl and the southern Māhūr. At the same time the powers of the provincial governors were much curtailed, all important forts being placed under the command of *kiladārs*, who were immediately subordinate to the Sultān.

[1] Most historians have erred in respect of the title under which Bahman ascended the throne. His correct title is given as above in a contemporary inscription.

These salutary reforms came too late to save the Bahmani dynasty from ruin; and in the reign of the fourteenth Sultān, Mahmūd Shāh II, the principal *tarafdārs*, or provincial governors, proclaimed their independence. Imād-ul-mulk, who had formerly been governor of the whole of Berār and now held Gāwīl, proclaimed his independence in 1490 and soon annexed Māhūr to his kingdom. He was by race a Kanarese Hindu, who had been made captive as a boy in one of the expeditions against Vijayanagar and brought up as a Musalmān by the governor of Berār, to whose place he ultimately succeeded. Imād-ul-mulk died in 1504 and was succeeded by his son Alā-ud-dīn Imād Shāh, who made Gāwīlgarh his capital and waged fruitless war against Amīr Barīd of Bīdar and Burhān Nizām Shāh of Ahmadnagar. Alā-ud-dīn was succeeded on his death in 1529 by his son Daryā Imād Shāh, and he, after a peaceful and uneventful reign, by his son Burhān Imād Shāh (1560–1). This prince, shortly after his accession, was imprisoned in Narnāla by his minister, Tufāl Khān, who declared himself independent. In 1572 Murtazā Nizām Shāh of Ahmadnagar invaded Berār with the avowed intention of releasing Burhān from confinement. Tufāl Khān, his son Shams-ul-mulk who had surrendered Gāwīlgarh, and Burhān were captured shortly afterwards, and were imprisoned and put to death. Thus ended the rule of the Imādshāhi dynasty in Berār, after a duration of eighty-five years.

The Ahmadnagar dynasty was not long destined to hold possession of the prize. At home it could do nothing to quell civil broils and allay dangerous feuds. Even when the famous Chānd Bībī became queen-regent there was no chance of upholding a tottering state. In 1595 Sultān Murād, the fourth son of the emperor Akbar, besieged Ahmadnagar, but raised the siege, early in 1596, on receiving the formal cession of Berār.

In those times the Deccan swarmed with adventurers from every nation in Asia and even from the African coast of the Indian Ocean. These men and their descendants settled in the towns, and their chiefs occupied most of the high military and civil offices; but the Musalmān rulers of the Deccan did nothing to disturb the routine of ordinary revenue collections and the administration of the internal affairs of villages and *parganas*, so that the old Hindu organization, with its hereditary *pargana* and village officials, the relic, perhaps, of a civilization older still, was allowed to remain, recognized by the conquerors as a more convenient administrative machine than any which they could devise. There are now in Berār several Muhammadan families of *deshmukhs* (former *pargana* officials); but they are all believed, and for the most part admit themselves, to be descendants of Hindus who in the reign of Aurangzeb accepted Islām in preference to relinquishing their hereditary offices. They may be distinguished from other Musal-

māns by their antipathy to beef, and frequently by a partiality for Hindu names, while in one case there are in neighbouring *parganas* two families of *deshmukhs*, one Musalmān and the other Hindu, acknowledged cousins, both of them claiming to be Rājputs by caste. Of the principal Marāthā families enumerated by Grant Duff as holding good positions under the Bahmani monarchy, that of Jādon Rao is the only one belonging to Berār. In lineage and historical repute it yields to none, even if its claim to descent from the Yādava Rājās of Deogiri be discredited; and the line is not yet extinct.

Sultān Murād, after the annexation of Berār to the Mughal empire, founded a town about 6 miles from Bālāpur, which he named Shāhpur, making it his residence; and the newly won province was divided among the Mughal nobles. After Murād's death in 1598 Akbar formed the design of conquering the whole of the Deccan. Ahmadnagar was besieged and captured; and Dāniyāl, the emperor's fifth son, was appointed governor of Ahmadnagar, Khāndesh, and Berār. He died in 1605, in the same year as his father, Akbar. For the greater part of the reign of Jahāngīr, Akbar's son and successor, Berār was in the possession of Malik Ambar, the Abyssinian (died 1626), who represented the independence of the moribund dynasty of Ahmadnagar, and to whose military genius and administrative capacity a generous tribute is paid in the *Tūzak-i-Jahāngīrī*, the official record of Jahāngīr's reign.

In the first year of Shāh Jahān, Berār passed once more under the Mughal sway. In 1636 the whole of that part of the Deccan which was in the possession of the Mughals was divided into four *Sūbahs*, or provinces, one of which was Berār, with Ellichpur as its capital and Gāwīlgarh as its principal fortress. Aurangzeb, Shāh Jahān's third son, was appointed viceroy of these four *Sūbahs*. After Aurangzeb deposed his father, the resources of Berār were taxed to the utmost by his campaigns in Bijāpur, Golconda, and Southern India, and at the same time the province was the prey of Marāthā marauders. In 1680 it was overrun by Sambhājī, the son of Sivajī; and in 1698 Rājārām, the half-brother and successor of Sambhājī, aided by Bakht Buland, the Gond Rājā of DEOGARH, who had embraced Islām in order to obtain Aurangzeb's support, again devastated the province.

In 1718 Abdullah and Husain Alī Khān, the Saiyid ministers of the emperor Farrukh Siyar, formally recognized the claim of the Marāthās, who periodically overran Berār, to *chauth*, or blackmail, to the extent of one-quarter of the revenue, and also permitted them to levy from the ryots the contribution known as *sardeshmukhi*, which seems to have been a royalty on appointments to or recognitions of the old Hindu office of *deshmukh*, and amounted to 10 per cent. of the revenue collections.

A year later Muhammad Shāh ascended the throne of Delhi, but the

government was still in the hands of the two Saiyids. Chīn Kilīj Khān, afterwards known as Asaf Jāh, who had distinguished himself in the later wars of Aurangzeb, had been appointed viceroy of the Deccan under the title of Nizām-ul-mulk, but was opposed by the court party at Delhi, who sent secret instructions to Mubāriz Khān, governor of Khāndesh, urging him to withstand Asaf Jāh by force of arms. In 1724 a battle was fought at Shakarkhelda in Buldāna District, in which Mubāriz Khān was utterly defeated. This battle established the virtual independence of Asaf Jāh, the founder of the line of the Nizāms of Hyderābād, who, to celebrate his victory, renamed the scene of it FATHKHELDA, or 'the village of victory'; and from that day Berār has always been nominally subject to the Nizām. The Bhonsla Rājās of Nāgpur posted their officers all over the province; they occupied it with their troops; they collected more than half the revenue, and they fought among themselves for the right to collect; but the Nizām constantly maintained his title as *de jure* ruler of the country, with the exception of Mehkar and some *parganas* to the south, which were ceded to the Peshwā in 1760 after the battle of Udgīr, and Umarkhed and other *parganas* ceded in 1795 after the battle of Kardla. This struggle between Mughal and Marāthā for supremacy in Berār commenced in 1737 between Asaf Jāh and Raghujī Bhonsla. It ended in 1803, when, after the defeat of the Marāthā confederacy at Assaye and Argaon, and the capture of Gāwīlgarh by General Arthur Wellesley, the Bhonsla Rājā signed a treaty by which he resigned all claim to territory and revenue west of the Wardhā, Gāwīlgarh and Narnāla, with a small tract of land afterwards exchanged, remaining in his possession.

The injury caused to Berār by the wars of the eighteenth century must have been wide and deep. Described in the *Ain-i-Akbarī* as highly cultivated and in parts populous, supposed by M. de Thevenot in 1667 to be one of the wealthiest portions of the Mughal empire, it fell on evil days before the close of the seventeenth century. Cultivation fell off just when the finances were strained by the long wars; the local revenue officers rebelled; the army became mutinous; and the Marāthās easily plundered a weak province when they had severed its sinews by cutting off its trade. Wherever the Mughals appointed a collector the Marāthās appointed another, and both claimed the revenue, while foragers from each side exacted forced contributions, so that the harassed cultivator often threw up his land and helped to plunder his neighbour. The Marāthās by these means succeeded in fixing their hold on the province; but its resources were ruined, and its people were seriously demoralized by a régime of barefaced plunder and fleecing without the semblance of principle or stability.

By the partition treaty of Hyderābād (1804) the Berār territories ceded by the Bhonsla Rājā were made over to the Nizām. Some

tracts about Sindkhed and Jālna were also restored by Sindhia to the Hyderābād State.

The Treaty of Deogaon had put a stop to actual warfare in Berār, but the people continued to suffer intermittently from the inroads of Pindāris, and incessantly from misgovernment; for the province had been restored to the Nizām just at the time when confusion in his territories was at its worst. 'The Nizām's territories,' wrote General Wellesley in January, 1804, 'are one complete chaos from the Godāvari to Hyderābād'; and again, 'Sindkhed is a nest of thieves; the situation of this country is shocking; the people are starving in hundreds, and there is no government to afford the slightest relief.'

After the conclusion of the war of 1817–8, which did not seriously affect the tranquillity of Berār, a treaty was made in 1822 which fixed the Wardhā river as the eastern frontier of the province, the Melghāt and the subjacent districts in the plains being restored to Hyderābād in exchange for the districts east of the Wardhā and those held by the Peshwā. The treaty also extinguished the Marāthā claim to *chauth*.

Between 1803 and 1820 the revenue of Berār had declined by one-half owing to the raids of Pindāris and Bhīls, while the administration was most wasteful, no less than 26,000 troops being quartered on the province. General Wellesley had advised in 1804 that the local governor should be compelled to reform his military establishment, foretelling the aggravation of civil disorder by the sudden cessation of arms. The disbanded troops were too strong for the weak police, while the spread of British dominion established order all around, and drove all the brigands of India within the limits of Native States. So Berār was harried from time to time by bands of men under leaders who on various pretexts, but always with the real object of plunder, set up the standard of rebellion. Sometimes the British irregular forces had to take the field against them, as, for instance, in 1849, when a man styling himself Appa Sāhib Bhonsla, *ex*-Rājā of Nāgpur, was with difficulty captured. Throughout these troubles the Hindu *deshmukhs* and other *pargana* officials were openly disloyal to the Nizām's government, doing their best to thwart his commanders and abetting the pretenders. The last fight against open rebels took place at Chichamba, near Risod, in 1859.

After the old war-time came the 'cankers of a calm world,' for then began the palmy days of the great farmers-general at Hyderābād. Messrs. Palmer & Co. overshadowed the Government and very nearly proved too strong for Sir Charles Metcalfe when he laid the axe to the root of their power. The firm had made large loans at 24 per cent. for the numerous cavalry maintained in Berār. Then Puran Mal, a great money-lender of Hyderābād, got most of Berār in farm; but in 1839 he was turned out, under pressure from the Resident, in favour of

Messrs. Pestonjī & Co. These were enterprising Pārsī merchants, who in 1825-6 made the first considerable exportation of cotton from Berār to Bombay. They gave liberal advances to cotton-growers, set up presses at Khāmgaon and other places, and took up, generally, the export of produce from the Nizam's country. In 1841 Chandū Lāl, the Hyderābād minister, gave them large assignments of revenue in Berār in repayment of loans to the State; but in 1843 the minister resigned, having conducted the State to the verge of bankruptcy, and Pestonjī was subsequently forced to give up his Berār districts.

All these proceedings damaged the State's credit, as Chandū Lāl's financing had hampered its revenue; and in 1843 and several succeeding years the pay of the Irregular Force maintained under the treaty of 1800 had to be advanced by the British Government. In 1850 it had fallen again into heavy arrears, and in 1853 the debt due to the British Government on account of this pay and other unsatisfied claims amounted to 45 lakhs. The bankruptcy of the State disorganized the administration, and the non-payment of the troops continued to be a serious political evil. Accordingly, in 1853, a new treaty was concluded with the Nizām, under which the Hyderābād Contingent was to be maintained by the British Government, while for the payment of this force, and in satisfaction of the other claims, districts yielding a gross revenue of 50 lakhs were assigned to the Company. The Berār districts 'assigned' by this treaty are now popularly understood to form the province of Berār, which was administered on behalf of the Government of India by the Resident at Hyderābād, though they coincide in extent neither with the Berār of the Nizāms nor with the imperial *Sūbah*. The territory made over under this treaty comprised, besides Berār, the districts of Dhārāseo and the Raichūr Doāb. It was agreed that accounts should be annually rendered to the Nizām, and that any surplus revenue should be paid to him. His Highness was released from the obligation of furnishing a large force in time of war, and the Contingent ceased to be a part of his army, and became an auxiliary force kept up by the British Government for his use.

The provisions of the treaty of 1853, which required the submission of annual accounts to the Nizām, were, however, productive of much inconvenience and embarrassing discussions. Difficulties had also arisen regarding the levy of customs duties under the commercial treaty of 1802. To remove these difficulties, and at the same time to reward the Nizām for his services in 1857, a new treaty was concluded in 1860, by which a debt of 50 lakhs due from him was cancelled; and he also received the territory of Sūrāpur, which had been confiscated for the rebellion of the Rājā, and the districts of Dhārāseo and Raichūr were restored to him. On the other hand, he ceded certain districts on the left bank of the Godāvari, traffic on which river was to be free

from all duties, and agreed that Berār should be held in trust for the purposes specified in the treaty of 1853.

The history of Berār from 1853 to 1902 is marked by no important political events other than the changes made by the treaty of 1860. Its smooth course was scarcely ruffled even by the cyclone of 1857. Whatever secret elements of disturbance may have been at work, the country remained calm, measuring its behaviour not by Delhi, but by Hyderābād. In 1858 Tāntiā Topī got into the Sātpurā Hills, and tried to break away to the south that he might stir up the Deccan, but he was headed at all outlets and never reached the Berār valley.

The management of Berār by the Nizām's officials had been worse than the contemporary administration of the adjoining Nāgpur territory, which was, during a long minority, under British regency, and was subsequently well governed until it lapsed. There had consequently been wholesale emigration from Eastern Berār to the Districts beyond the Wardhā. When Berār came under British management the emigrants, with the usual attachment of Indian cultivators to their patrimony, the value of which had in this case been enhanced by much of it having remained fallow for some time, returned in thousands to Berār. This was only one mode out of several, which it would be tedious to detail, whereby cultivation was restored and augmented. Then supervened the American Civil War. The cultivation of cotton received an extraordinary stimulus, the cultivators importing their supply of food-grains so that all available land might be devoted to the cultivation of the more profitable crop. Cotton requires much manual toil in weeding, picking, ginning, packing and the like, and the increase in the area under it created a great demand for rural labour, which operated to raise the standard of wages. A great export of cotton to Bombay was soon established; and as the importation of foreign produce was far from proportionate, much of the return consisted of cash and bullion, so that prices rose and the labouring and producing classes were rapidly enriched. At the same time a line of railway was being laid across the province, causing the employment of all labour, skilled and unskilled, that could be got on the spot, and also introducing a large foreign element. The people became prosperous and contented, and progress in all departments was vast and rapid.

The *Census Report* of 1881 showed material advance. The cultivated area had increased by 50 per cent. and the land revenue by 42 per cent. since 1867. But although Berār escaped the widespread famine of 1876–8, the poorer classes undoubtedly suffered much hardship at that time, and cattle died by thousands for want of fodder. The next ten years were, on the whole, prosperous, though cholera, which generally appeared in an intense form every other year, caused great mortality.

There was, however, an increase in trade, cultivation, and manufactures, and the population rose by 8 per cent. The ten years preceding 1901 were not, owing to natural causes, marked by a general increase in prosperity, but the province displayed considerable stability and power of resistance. There was but one year in the decade, 1898, which could be described as very favourable, and even then the *rabi* crops partially failed. The other nine years were marked by unseasonable or deficient rainfall, poor harvests, sickness, and high mortality, culminating in 1899 and 1900, when famine was sore in the land. The population decreased by 5 per cent. during the decade. But, notwithstanding all this, other statistics show steady progress and development. Cultivation has extended; the value of the import and export trade has increased; and the number of steam factories has risen by 84 per cent.

It had gradually become apparent since 1860 that the maintenance of the Hyderābād Contingent on its old footing as a separate force was inexpedient and unnecessary, and also that the administration of so small a province as Berār as a separate unit was very costly. In 1902, therefore, a fresh agreement was entered into with the Nizām. This agreement reaffirmed His Highness's rights over Berār, which, instead of being indefinitely 'assigned' to the Government of India, was leased in perpetuity on an annual rental of 25 lakhs; and authorized the Government of India to administer the province in such manner as it might deem desirable, as well as to redistribute, reduce, reorganize, and control the Hyderābād Contingent, due provision being made, as stipulated in the treaty of 1853, for the protection of His Highness's dominions. In pursuance of this agreement the Contingent ceased, in March, 1903, to be a separate force, and was reorganized and redistributed as an integral part of the Indian army.

In October, 1903, Berār was transferred to the administration of the Chief Commissioner of the Central Provinces. For the present the rental paid to the Nizām is charged with an annual debit of 10 lakhs, towards the repayment of loans made by the Government of India for famine expenditure in Berār and for famine and other expenditure in the Hyderābād State. When these loans have been repaid, the Nizām will receive the full rent of 25 lakhs. The advantages secured to him by the new agreement are manifest. His rights over Berār have been reaffirmed, and he will receive 25 lakhs per annum, compared with a sum of between 8 and 9 lakhs which was the average surplus paid to him under the former treaties.

The principal remains of archaeological or historical interest in Berār are the small cave monastery and the shrine of Shaikh Bāba at PĀTŪR; the *chhatrī* of Rājā Jai Singh and the fort at BĀLĀPUR; various massive stone temples attributed to the era of the Yādava Rājās of Deogiri, and locally known as Hemādpanti temples, in the Chālukyan style; some

Jain shrines, particularly that at SIRPUR; the hill forts of GĀWĪLGARH and NARNĀLA; and the mosques at FATHKHELDA and ROHANKHED. The principal Hemādpanti temples are those at LONĀR, MEHKAR, BĀRSĪ TĀKLI, and PUSAD, but many others are scattered throughout the province.

Population.

The population of Berār in 1901 was 2,754,016, or 155 persons per square mile. The distribution varies in accordance with the natural advantages of the three divisions of the province. Thus the density in the twelve *tāluks* of the Pāyānghāt varies from 150 to 311 persons per square mile, and that of the nine *tāluks* of the Bālāghāt from 85 to 150, while the population of the Melghāt is very sparse, the density being no more than 22 persons per square mile.

The table on the next page shows the population of the six Districts of the province in 1901. In 1905 the six Districts were rearranged; Ellichpur, Wūn, and Bāsim have been abolished, and a new District of Yeotmāl has been formed. The present distribution of area and population will be found in the several District articles.

The term 'village' denotes in Berār the area demarcated for revenue purposes as a *mauza* or *kasba*, *mazras* or hamlets being reckoned for census purposes as part of the principal village. The term 'town' includes every municipality and civil station and villages with a population of 5,000 or more. The villages are agricultural communities, each with its hereditary officers and servants, the former paid by a percentage on collections and the latter by customary dues in kind. The *gaothān*, or village site, on which the houses are collected together, is not surrounded by a wall; but each village has its *garhī*, or fort, usually of earth, in which the village officers possess hereditary rights, but which was formerly used as a place of refuge by the whole community in troublous times.

The first Census of Berār, which was taken in 1867, disclosed a total population of 2,227,654. By 1881 this had increased to 2,672,673, and by 1891 to 2,897,491. The Census of 1901 showed a decrease to 2,754,016, or by 4·9 per cent., due to the famines of 1896–7 and 1899–1900, and to abnormally high mortality from disease in the years 1894–7 and 1900. One feature of the decade was the gravitation of an unusually large proportion of the people towards the towns, the percentage of urban population to the whole being 15·2 in 1901, compared with 12·5 in 1881.

The deductions to be drawn from the age statistics in the Report on the Census of 1901 may be thus summarized: infant mortality is greatest between the ages of one and two; the mortality among children born in the first half of the decade ending 1901 was considerably less than that among children born in the second half, the difference being attributable

DISTRIBUTION OF POPULATION IN BERĀR, 1901

District.	Area in square miles.	Number of towns.	Number of villages.	Total Population.			Urban Population.			Persons per square mile in rural areas.
				Persons.	Males.	Females.	Persons.	Males.	Females.	
Amraotī . . .	2,759	15	1,057	630,118	322,924	307,194	135,173	70,706	64,467	179
Akola	2,678	10	966	582,540	295,917	286,623	124,158	64,005	60,153	134
Ellichpur . . .	2,605	6	788	297,403	150,820	146,583	64,476	32,751	31,725	81
Buldāna . . .	2,809	6	870	423,616	211,739	211,877	41,430	21,296	20,134	136
Wūn	3,910	4	1,205	466,929	235,638	231,291	27,856	14,775	13,081	112
Bāsim	2,949	3	824	353,410	177,262	176,148	26,358	13,461	12,897	111
Total	17,710	44	5,710	2,754,016	1,394,300	1,359,716	419,451	216,994	202,457	132

to the harder conditions of life in the second quinquennium; there is a general tendency to understate the age of marriageable girls; the last quinquennial period of life exhibited in the tables (55–60) is the most fatal; and famine and disease have principally affected the youngest and the oldest of the females, and the youngest and those over thirty among the males.

The registration of births and deaths is carried out with greater accuracy in Berār than in most of the Provinces of British India proper, though the entire population is not under registration. The following table shows the birth and death-rates and the principal fatal diseases in 1881, 1891, 1901, and 1903:—

	Population under registration.	Ratio of registered births per 1,000.	Ratio of registered deaths per 1,000.	Deaths per 1,000 from			
				Cholera.	Small-pox.	Fever.	Bowel complaints.
1881 .	2,630,018	39·9	29·1	1·3	0·1	15·8	4·5
1891 .	2,840,406	42·8	40·6	2·8	0·01	17·5	7·7
1901 .	2,717,346	30·8	27·6	0·006	0·07	13·9	4·4
1903 .	2,721,342	48·16	41·74	0·03	0·04	11·57	5·74

The variation between the birth and death-rates in the different Districts is not constant, and it can hardly be said that any one District is conspicuously more healthy or unhealthy than the rest. The birth-rate seems to be usually highest in Buldāna. Throughout the early part of the decade ending 1901 birth and death-rates were consistently lower in Wūn than elsewhere; but this was probably due to defective registration, as the District is no longer exceptional in this respect. Both birth and death-rates were seriously affected by the famine of 1899–1900.

The most prevalent disease is fever, the deaths from which about equal in number those from all other causes. Bowel complaints are the next most frequent cause of death. Plague did not appear in Berār till 1903, and the Administration, in coping with it, profited by the experience gained in other Provinces. Evacuation and disinfection were the principal measures adopted.

Males outnumber females by 34,584. It has been observed since 1881 that male births outnumber female, but that throughout the first decade of life females outnumber males. It may therefore be inferred, allowing for the habit of understating the age of marriageable daughters, that female infanticide is unknown in Berār. The ratio of females to males is less in towns than in villages, for the towns contain male workers who leave their families behind them. The same circumstances affect the population of certain *tāluks*. The greater the

commercial element in a *tāluk*, the less is the proportion of females to males.

The following table gives statistics of civil condition for 1891 and 1901:—

Civil condition.	1891.			1901.		
	Persons.	Males.	Females.	Persons.	Males.	Females.
Unmarried .	943,040	572,594	370,446	897,929	552,329	345,600
Married . .	1,644,458	833,575	810,883	1,508,454	752,746	755,708
Widowed . .	309,993	85,657	224,336	347,633	89,225	258,408
Total	2,897,491	1,491,826	1,405,665	2,754,016	1,394,300	1,359,716

Of the male population 40, 54, and 6 per cent., and of the female 25, 56, and 19 per cent. are single, married, and widowed respectively. Married males and females are fairly evenly balanced, so that it is evident that polygamy, though permitted by all the religions the followers of which are numerically important, is but sparingly practised. No relics of polyandry survive. Widow remarriage is prohibited, not only among the higher castes of Hindus, but also among the well-to-do in inferior castes, such as members of *deshmukh* families among Kunbīs. It is allowed and extensively practised among most of the agricultural castes, and is known as *pāt* or *mohtur*, in contradistinction to *lagna*, a word which is applied only to the marriage of a virgin bride. Among some tribes, Banjārās and Gonds for example, the levirate prevails, i. e. it is the duty of a man to take to wife the widow of his deceased elder brother, though to marry a younger brother's widow would be regarded as incestuous. Child marriage is the general rule among the higher castes of Hindus. Animists usually defer marriage until after the attainment of puberty, and allow greater freedom of choice to the parties concerned.

The joint-family system is the rule among Hindus in Berār. Ignorant Musalmāns too will assert in civil suits that they are members of an undivided family when they believe that the assertion may suit their interests.

Marāthī is spoken by nearly 80 per cent. of the population. The Musalmāns, 212,000 in number, speak a corrupt dialect of Urdū, popularly known as Musalmānī; other dialects of Western Hindī, returned as Hindī and Hindustāni, are spoken by immigrants from the United and Central Provinces. The Mārwārī dialect of Rājasthānī was spoken in 1901 by 41,521 traders and bankers from Mārwār. Gipsy dialects, of which Banjārī or Labhānī is the most important, were spoken by 68,879 persons. Of Dravidian languages Gondī and its dialects, of which the principal is Kolāmī, were spoken by 83,217 persons, and Telugu by 85,431, mostly dwellers in the south of Wūn

District on the banks of the Pengangā. The only important Mundā language is Korkū, spoken by the Korkūs in the Melghāt and its neighbourhood. Nihālī is a moribund language of uncertain affinities, returned as the mother-tongue of 91 Nihāls, who, however, probably speak Korkū, defining it as Nihālī. English was returned as the mother tongue of 653 persons.

In this small province nearly four hundred castes and tribes are represented. The three chief groups coincide generally with the main religious divisions, Hindu, Muhammadan, and Animistic. Musalmāns call for little notice in this connexion. Many of them are descendants of converted Hindus. Shaikhs number 131,000; Pathāns, 52,000; Saiyids, 19,000; and Mughals, 4,000.

The Kunbīs, the great cultivating caste of the Provinces, are the most important of the Hindu castes. They number 791,000, and predominate in every *tāluk* except the Melghāt. Very similar to them in all respects are the Mālīs, numbering 193,000. The Kunbī is usually of medium height, dark-skinned from exposure, and wiry. As a cultivator he is moderately industrious, but devoid of enterprise and intelligent energy. Next to the Kunbīs the Mahārs, numbering 351,000, are the most numerous caste. The Mahār occupies an important, if humble, place in the village system of the Deccan. Socially he is regarded as an unclean outcaste whose touch is pollution. Similar to the Mahārs, but even more unclean, are the Māngs, who number 49,000. Other numerically important castes are: Telis (77,000), Dhangars (75,000), Brāhmans (73,000), Banjārās (60,000), Wānīs (41,000), and Rājputs (36,000). The indigenous Rājputs are not favourable specimens of their class, and it is doubtful whether their claim to pure descent would be admitted in Rājasthān.

The two principal aboriginal tribes are the Gonds and the Korkūs, the former ordinary Dravidian and the latter Mundā. The Gonds number 69,000, or, if the cognate Kolāms and Parahāns be included, 96,000. They are very dark and usually slight and undersized, though exceptions are found among the division known as Rāj Gonds. The Korkūs number 26,000, and have their home in the north of the province among the Gāwīlgarh hills. Their physique is superior to that of the Gonds, and they are well-built and muscular, but their personal appearance is not pleasing. They are distinguished principally by their small eyes, large mouths, flat noses, and large and prominent ears.

The table on next page gives statistics for religions in 1891 and 1901. Hindus constituted 86·7 per cent. of the total population in the latter year. Since 1891 Hindus have lost absolutely 143,775 persons, Musalmāns have gained 4,359, and Animists have lost 7,144. All other religions, the followers of which are not numerous, have

gained in all 3,085. There has been a large increase in Sikhs, which is rather apparent than real, as it is attributable solely to more correct enumeration. The increase among Musalmāns seems to have been due partly to their superior fecundity and partly to proselytizing efforts.

	1891.		1901.	
	Persons.	Percentage.	Persons.	Percentage.
Hindus . . .	2,531,791	87·3	2,388,016	86·7
Animists . . .	137,108	4·7	129,964	4·7
Musalmāns . .	207,681	7·1	212,040	7·6
Christians—				
Native . . .	711	0·2	1,748	0.06
Other . . .	648	0·2	627	0·02
Others . . .	19,552	0.6	21,621	0·7

Of all the gods of the Hindu pantheon Mahādeo and Māruti (Hanumān) probably receive the most attention. The latter has a shrine in every village. The cultivator propitiates Khāt Deo, the fertilizing god, who has his habitation in a white stone set up in a field, and local gods such as Chindiya Deo, 'the lord of tatters,' are worshipped. The 'godlings of disease' are propitiated as occasion arises. The only heterodox sect which calls for notice is that of the Mahānubhavas, or black-robed devotees, of whom a description is given in the account of RĪTPUR, their principal place of pilgrimage. This movement, which is a protest against polytheism, Brāhmanism, and, in a less degree, the caste system, is rapidly declining. Islām presents no extraordinary features in Berār. Here, as elsewhere in India, the Musalmān villager has borrowed or inherited from his Hindu neighbour or ancestor many practices which precisians would condemn as superstitious. The Gonds and Korkūs, though still Animists, are tinged with Hinduism and worship Mahādeo as well as other Hindu gods, and the Korkūs worship also their own ancestors, both male and female.

The oldest Hindu temples of Berār are the Hemādpanti, already referred to. More recent temples have no distinctive features. In mosques examples of both the Pathān and the Mughal styles are found.

There are 14 Christian missions at work in the province—two Roman Catholic, one Church of England, and eleven other Protestant, among whom the Methodists and Presbyterians are the most important. The activity of these missions is evidenced by the fact that native Christians more than doubled in number between 1891 and 1901. The Christian missionaries did excellent work in the famines of 1896–7 and 1899–1900. For purposes of ecclesiastical jurisdiction Berār is in the Anglican and Roman Catholic dioceses of Nāgpur. Of the Christians in 1901, 888 belonged to the Roman, and 626 to the Anglican Church.

Agriculture supports 73 per cent. of the population, and of every 100 persons so supported 71 are workers. The preparation and supply of material substances provide a living for $7\frac{1}{4}$ per cent. of the people, the principal sub-orders under this head being, in the order of their importance, (1) cotton; (2) textile fabrics and dress; (3) food, drink, and stimulants; (4) wood, cane, and leaves. Commerce supports $2\frac{1}{2}$ per cent., and unskilled labour, not agricultural, nearly 2 per cent.

The food of the agricultural and labouring classes consists chiefly of unleavened cakes of *jowār* (great millet) meal, with a seasoning of green vegetables, onions, *ghī*, chillies, or pulse, or a combination of two or more of these. Milk is an important article of diet; wheat and rice are luxuries. Goat's flesh is extensively eaten by Musalmāns, and less so by those Hindus to whom flesh is not forbidden as an article of diet. Few Musalmāns, except those living in towns and in some of the larger villages, eat beef. It is necessary for those in smaller villages to respect the prejudices of their Hindu neighbours, many of which they have adopted. The Mahārs, who are scavengers, are habitual eaters of beef in the form of carrion.

The ordinary dress of the cultivator or labourer consists of a *dhotī*, a short jacket, an *uparna* or upper cloth, and a red or white turban, the former being the favourite colour. The jacket is often discarded. Brāhmans and other respectable castes wear long coats, and finer *uparnas* and turbans. Musalmāns frequently, though not invariably, substitute *paijāmas* and a long coat for the *dhotī* and short jacket, and their turbans display a greater variety of colour. The dress of the women consists of a *lugade* and a *cholī*. The former is the principal garment and corresponds to the *sārī*, being tied round the waist; the long end is taken over the head, and the front of the portion forming the skirt is carried back between the legs and tucked in at the waist behind, giving the wearer a singularly bunchy and ungraceful appearance. The *cholī* is a scanty bodice which confines the breasts. Muhammadan women often wear the common combination of trousers, shift, or *cholī*, and scarf, which is tied round the waist and carried over the head. Gond and Kolām women do not wear the *cholī*, but conceal the breasts by drawing the end of the *lugade* across them. The dress of the Banjārā women is especially picturesque.

The dwelling-houses of the agricultural classes are mostly of sun-dried brick roofed with thatch or tiles. *Dhābās*, or flat roofs of earth, are also common. The houses of labourers consist of one or two rooms, with a small *āngan* or yard enclosed by a mud wall in front of the house. The houses of the well-to-do are more pretentious, consisting of several rooms opening into a rectangular courtyard, along one side of which the cattle are usually stalled. The poorest classes live in huts of hurdles or grass mats daubed with mud. In the early part of the hot

season, while the grain is being threshed and garnered, cultivators move with their cattle into their fields, where they live in spacious sheds in the vicinity of their threshing-floors.

The higher castes among the Hindus burn their dead; Musalmāns, Hindus of the lower castes, and aboriginal tribes bury them. The Korkūs erect posts of teak, curiously carved, at the heads of graves. Among the Mahānubhavas and some other orders of ascetics the dead are buried in salt, in a sitting posture.

The tastes of the agriculturist are principally domestic; he has few amusements beyond his family circle except the enjoyment of village gossip, a weekly trip to the nearest market village, an occasional visit to a *jatra* or religious fair, or, more rarely, a pilgrimage to a shrine of more than local celebrity.

The principal festivals observed are the Māndosī, the Akshayyatritya, the Nāgapanchamī, the Polā, the Mahālakshmī, the Pitrapaksha, or feast to *manes* of male ancestors, the Dasara, the Divāli, the Sivarātrī, and the Shimgā or Holī. The three most important feasts to the cultivator are the Holī, the Polā, and the Dasara; and at these burning questions of social precedence, often ending in criminal complaints, arise between different branches of the families of *pātels* or hereditary headmen of villages. At the Polā festival the plough cattle are worshipped. A rope called *toran* is then stretched across two upright poles, and the cattle of the villagers, gaily decorated, are led beneath it, headed by those belonging to members of the *pātel's* family in the order of their seniority.

Hindus of all castes in Berār have three names. The first is the personal name and corresponds to the Christian name of a European, the second is the father's personal name, and the third is the family surname. Thus Ganpat Raoji Sindhya would be Ganpat, the son of Raoji, of the Sindhya family or clan.

Agriculture.

The three natural divisions of Berār have already been described. The Melghāt or northern division is extremely rugged, and is broken into a succession of hills and deep valleys. The hilly portion consists of basaltic and calcareous rock, and the soil in the valleys and ravines is a light brown alluvium, overlying basalt accumulated from superficial rainwash from the hills. This light-brown soil, extending to about 8 or 10 miles from the foot of the hills towards the valley of the Pūrna, is cultivable, but is less rich than the soil of the valley itself. The Bālāghāt, or southern division, is formed of undulating high land of the Deccan trap. The plateaux are covered with fairly rich soil, and the soil of the intermediate valleys is an alluvium of loam of remarkably fine quality and very suitable for wheat.

The Pāyānghāt, or central valley of Berār, contains the best land in

the province: a deep, rich, black, and exceedingly fertile loam, often of great depth, with very thick underlying strata of yellow clay and lime. Where this rich soil does not exist, as in the immediate vicinity of hills, *murum* and trap are found with a shallow upper crust of inferior light soil. A great deal of the Pūrna alluvium produces efflorescences, chiefly of salts of soda, and many of the wells sunk in this tract have brackish water. The climate of Berār has already been described. It may be briefly characterized as intensely hot and dry in the months of March, April, and May, and temperate for the rest of the year, with moderate rainfall between June and October.

Cotton, *jowār* (great millet), *tuar* (pulse), and sesamum are the *kharīf* or monsoon crops; and wheat, linseed, and gram the principal *rabi* or cold-season crops. In 1903-4, of the total area cropped, nearly 87 per cent. was devoted to *kharīf* and 13 per cent. to *rabi*, only ½ per cent. being irrigated.

The areas sown with *kharīf* and *rabi* crops vary according to the rainfall and market prices, and their extent is also partly regulated by the system of rotation of crops in vogue. If the rains begin well in June, a large area is sown with *kharīf*, but if they are late more land is kept for *rabi*. Thus in 1891, 1,390 square miles were sown with wheat, the principal *rabi* crop, while in 1903-4, after several years of inadequate late rains, the area so sown had fallen to 710 square miles.

The cultivator generally commences the preparation of his field in January. The rich black soil of the plains is not worked with the *nāngar* or heavy plough for several years together, unless it should be overgrown with grass or weeds; but the lighter soil of the upland country is ploughed nearly every year, especially when the land is reserved for a *rabi* crop. Ploughing is generally commenced soon after the crop of the year has been removed from the ground; if it be deferred longer, the soil dries and hardens and becomes difficult to work. Land that has been lying fallow cannot be ploughed until the first monsoon rain has fallen. Parallel furrows are not considered sufficient for hard soil, which is therefore cross-ploughed, the second operation being at right angles to the first. Harrowing succeeds, or, in the case of fields which do not require ploughing every year, takes the place of ploughing. The first harrowing is done with the *moghada*, a large, heavy harrow drawn by four bullocks. This turns up the earth in large clods, and brings roots, grass, and weeds to the surface. The soil is then cross-harrowed with the *wakhar*, a lighter implement drawn by two bullocks, which breaks up the clods and cleans the soil. In some cases the soil is harrowed again at intervals of a few days, in order that it may be thoroughly levelled and pulverized. The *kharīf* sowings take place immediately after the first regular monsoon fall of rain in June, and the *rabi* sowings in September or October.

Weeding is commenced when the soil dries during the first break in the rains. It is done with the *daora*, a two-bladed hoe which is drawn by two bullocks, and removes the weeds from two of the interstices between the rows of plants at once, the weeds growing among the plants being removed by hand. Three or four weedings in a season are generally considered sufficient, but the more industrious cultivators often use the hoe every fortnight until the crop is sufficiently strong to smother all surface weeds.

Cotton pods are usually ready for picking about the end of October, and this light work is generally done by women and children. Payment is, as a rule, made in kind, each labourer receiving from one-twelfth to one-eighth of the day's picking. From the short staple variety of cotton which the Berār cultivator now grows he can obtain, if the crop is good, from five to seven pickings at intervals of fifteen or twenty days ; but the superior *bani* and *jari* varieties, the latter of which is now extinct in Berār, will not yield a second picking under a month, and the crop is generally exhausted in three pickings. The cultivator finds that the short staple is easier to raise and pays him just as well, for although he gets a lower price the crop is more plentiful.

Before the establishment of ginning factories in the province almost every cultivator had his own seed for sowing cleaned by hand. Ginning by steam-power was first introduced in 1887–8, in which year there were only four factories working. In 1901 these had increased to 121, and there is every prospect of a further development of this industry.

Jowār ripens early in December, and is reaped by men, the ears being afterwards separated from the stalks by women. The stalks, called *kadba* or *kadbi*, are stacked, and furnish the principal fodder-supply for cattle. The ears are conveyed to the threshing-floor, where bullocks tread out the grain, moving round a central pole. Six bullocks can thresh a *khandi* (about 14 cwt.) in two days. The threshed grain is winnowed in a breeze. One man stands on a tripod, while another hands up to him a basketful of grain from the threshing-floor. As he slowly empties the basket, the chaff is carried away by the wind and the grain falls to the ground.

Of the total population of Berār in 1901, 73·2 per cent. were supported by agriculture. The figures are as follows :—

Persons interested in land, landholders, tenants, co-sharers, &c.	561,912
Agricultural labourers, &c.	1,452,221
Growers of fruit, vegetables, &c.	586
Total	2,014,719

The principal crops in the order of their importance are cotton, *jowār*, wheat, linseed, gram, *tuar* or *arhar*, and sesamum. *Jowār* and wheat are the staple food-grains, rice and *bājra*, and, among pulses, *tuar*

and gram, being subsidiary food-crops. Oilseeds are represented by sesamum and linseed; fibres by cotton; condiments by chillies; and drugs and narcotics by tobacco. The cotton crop comes into the market at the end of October or beginning of November, and the supply is maintained by successive pickings throughout the cold season. *Jowār* is not available till later, about January and the beginning of February. Owing to recent years of famine and scarcity, there has been an increase in the area under *jowār*. In 1903–4 *jowār* occupied 4,414 square miles, or 38 per cent. of the whole cultivated area of the province; and cotton 4,455 square miles, also 38 per cent.

The approximate yield per acre of the principal crops is as follows, to the nearest hundredweight: cotton, uncleaned 4, cleaned 1; *jowār*, 8; wheat, 6; linseed, 4; gram, 6; sesamum, 3; *tuar*, 3.

The Berār cultivator manures very little, not because he fails to appreciate the advantages to be derived from manure, but because he is unable to obtain a sufficient supply. Cattle-dung is generally the only kind procurable, and so much of this is used as fuel that little remains for the fields.

In 1903–4 only 0·7 per cent. of the cropped area was irrigated, wells being practically the only source of irrigation, which is confined, with few exceptions, to garden produce.

The necessity of a rotation of crops, to prevent exhaustion of the soil, is thoroughly understood. On light soil cotton and *jowār* are grown in alternate years; on the rich black soil of the plains cotton, *jowār*, and *rabi* crops succeed one another. In the third year a plurality of crops will probably be grown, wheat, gram, and linseed or *lākh* being raised in various plots of the same field. In the present decline of *rabi* cultivation, cotton and *jowār* follow one another year after year on the same land, the fertility of which is thus much impaired, as the smaller cultivators cannot afford to let their fields lie fallow.

The following figures show the increase of cultivation in Berār during the last twenty-four years, figures being in square miles:—

	1881.	1891.	1901.	1903–4.
Assessed cultivable land in occupation .	11,425	12,053	12,593	12,717
Assessed cultivable land under cultivation	10,377	10,414	10,989	11,465

The occupied land not cropped is principally reserved for grazing. Except in Wūn District, where about 7 per cent. remains to be taken up, and in the Melghāt, where nearly 30 per cent. is still unoccupied, most of the cultivable land is now occupied. In Bāsim District much of the excess grazing land has recently been set aside for cultivation. The demand for land in Wūn District is steadily increasing year by year. A decrease of cultivation in the Melghāt is due to the emigration

of Korkūs in the famine of 1899–1900. Liberal concessions, which should tend to restore prosperity, have been granted.

Little is done towards the improvement of the quality of crops by selection of seed or by the introduction of new varieties, and there is no experimental farm in the province. As already remarked, the cultivator has allowed the quality of the cotton crop to deteriorate in order to obtain a greater yield. Seed separated from the fibre by the steam-ginning process is said to be less fecund than the seed of hand-ginned cotton.

A department of Land Records and Agriculture was formed in 1891, but its work has hitherto been confined to survey and settlement.

The benefits of the Agriculturists' Loans Act and the Land Improvement Loans Act are naturally appreciated most highly in years of scarcity and famine. The delay in disbursing loans allowed under these Acts was for a long time an obstacle in the way of their popularity, but experience gained in years of famine has led to the simplification of procedure; and there seems to be a fair field for the success of agricultural banks.

The very few horses in Berār are inferior animals and merit no notice. Ponies are more numerous, but are weedy. An attempt was made by Government for a few years to improve the breed by keeping Arab stallions at the head-quarters of Districts, but was abandoned about 1893 as a failure. The breed of cattle proper to the province is known as Gaorani or Berāri, of which there are two distinct varieties, the Umarda and the Khāmgaon, the former being the smaller. Animals of this breed are hardy, active, and enduring, and can easily cover 30 miles within six or eight hours. A pair will sometimes cover 40 or 50 miles in a day. The Khāmgaon breed is more adapted to heavy draught. This breed is found in the Khāmgaon, Bālāpur, Chikhlī, Jalgaon, and part of the Akot *tāluks*; the Umarda breed elsewhere. Indiscriminate crossing, the neglect of stock cattle, and fodder famines have contributed to the deterioration of both breeds. On the eastern borders there are very distinct indications of the influence of the Arvī or Gaulgani breed, and on the southern border of that of the breeds of cattle found in the Nizām's Dominions. The recent prevalence of famine has necessitated the importation of working, and, to a smaller extent, of milch cattle. The breeds most commonly imported have been the Nimāri, Sholāpuri, Labbāni, and Hoshangābādi; cattle of the Mālwi, Gujarāti, and Surati breeds are less frequently seen.

Buffaloes in the north and east of the province are of the Nāgpuri, and elsewhere of the Dakhani breed. Since the famine of 1899–1900 buffaloes have been imported from Central India. These, which are distinguished by the comparative smallness of their heads and horns, are locally known as Mālwi. The sheep and goats are inferior animals,

and the herdsmen, mostly Dhangars, lack the means and the knowledge necessary to the improvement of the breed. In towns goats of the Gujarāt breed are found, and these are said to be good milch animals.

Large Umarda bullocks fetch about Rs. 60 to Rs. 70 each, small Umarda bullocks from Rs. 30 to Rs. 40, and Khāmgaon bullocks from Rs. 50 to Rs. 70. Bullocks of other breeds cost from Rs. 25 to Rs. 40 each, and cows from Rs. 10 to Rs. 25, the Berār cow being a poor milch animal. Buffaloes are sold at from Rs. 20 to Rs. 70 each, sheep at from Rs. 2-8-0 to Rs. 3-8-0, and goats at from Rs. 3 to Rs. 10. The price of a pony varies from Rs. 25 to Rs. 50.

Cattle suffered severely in the scarcity of 1896-7 and the famine of 1899-1900, and the mortality was great; but large importations have gone far towards making good the deficiency. The grazing lands are sufficient, except in parts of the Pūrna valley, such as the Akot and Daryāpur *tāluks*. In the upland country almost every village has a certain area of land set apart for free grazing. In 1903-4 the grazing area was 335 square miles, of which 245 were Government land set apart for free grazing and 90 were held by private occupants. *Kadba*, or *jowār* stalks, form the principal fodder-supply, and the plough cattle of the richer cultivators are partly fed on cotton seed.

There is only one cattle fair in the province, held at Wūn in February or March. Some fine cattle are brought to this fair and fetch good prices; but the fair has not been regularly held of late years, for fear of importing plague. Ponies are brought in considerable numbers to the Deūlgaon Rājā fair in Buldāna District, held in September in connexion with the festival of Bālāji. The principal weekly cattle markets in the province are those at Umarda, Digras, and Nandūra.

Rinderpest, foot-and-mouth disease, and anthracoid diseases, such as *charbon symptomatique*, are the commonest infectious diseases, the two former being much more frequent than the third. Anthrax is rare, and *surra* has occurred only once among the ponies on a *dāk* line. The Civil Veterinary department has published a leaflet of instructions for the prevention of the spread of contagious diseases. This has been widely circulated; a system of registration of cattle disease has been introduced; and on receipt of reports of outbreaks veterinary assistants are deputed to carry out suppressive measures and to treat the sick. Veterinary dispensaries are being established at *tāluk* head-quarters. The publication of a manual of simple veterinary instructions in the vernacular has been delayed for want of funds. Bacteriological researches have been commenced, and inoculation with anti-rinderpest serum is carried on.

Irrigation is rare except for garden crops, which are irrigated almost entirely from wells, the water-lift being the *mot* or leathern bucket, raised by two bullocks. The average cost of construction of a permanent well

is from Rs. 300 to Rs. 500 when specially expensive blasting operations have not to be undertaken, or from Rs. 10 to Rs. 15 per foot of depth; and the area irrigated by a single well is about four acres. The depth of permanent wells varies from 20 to 90 feet. Temporary wells, such as those found in Gujarāt, are not in use in Berār, as the water is not sufficiently near to the surface; but excavations known as *jhiras* are very commonly made in the beds of streams, in the hot season, for the purpose of obtaining drinking-water.

STATISTICS OF AGRICULTURE IN BERĀR

(In square miles)

	1881-90 (average).	1891-1900 (average).	1900-1.	1903-4.
Total area	17,715	17,737	17,744	17,763
Total uncultivated area	7,489	7,479	5,211	4,650
Cultivable, but not cultivated	2,830	2,604	1,270	2,181
Uncultivable	4,659	4,890	384	378
Total cultivated area	10,226	10,258	10,651	11,465
Irrigated from canals	*Nil*	*Nil*	*Nil*	*Nil*
" " wells	66	85	106	58
" " other sources	2	2	1	1
Total irrigated area	68	87	107	59
Unirrigated area	10,158	10,171	10,544	11,406
*Cropped area.**				
Rice	35	57	80	54
Wheat	1,346	926	389	707
Jowār	3,405	3,594	4,520	4,414
Pulses	849	786	798	929
Oilseeds	964	732	580	606
Cotton	3,266	3,302	3,819	4,455
Condiments and spices	47	49	93	68
Orchard and garden produce	24	37	65	44
Tobacco	36	27	25	23
Miscellaneous	254	202	288	193

NOTE.—Up to 1896 the figures are for the year ending March 31, and subsequently for the year ending July 31.

* This includes the area double cropped, which amounted to only 5 square miles in 1900-1, and to 30 square miles in 1903-4.

Rents, wages, and prices.

Berār being settled on the *ryotwāri* system, the rent of a cultivator may ordinarily be taken as the land revenue paid by him to Government. In the comparatively few villages held under other tenures, the holder of the village is not in any way restricted by legislation as regards the rent which he is entitled to demand, except that in *ijāra* villages those tenants who occupied their holdings when the village was leased are entitled to hold at rates not exceeding those demanded by Government for similar land in adjacent *khālsa* villages. This privilege is restricted to land actually held before the lease. The control of rent by legislation has not been found necessary, for rack-renting is impossible at present. Statistics of rent actually paid in alienated villages are not

available; but the Government assessment per acre, which may be taken as a fair standard, varies from Rs. 2–12–0 to Rs. 1–14–0 in the Pāyānghāt and from Rs. 2–0–0 to Rs. 1–2–0 in the Bālāghāt. Of tenants holding under occupants there are three classes: tenants paying money rent, tenants paying rent in kind on the *batai* system, and *potlāwanidārs* or tenants-at-will, who pay rent either in money or in kind, the landlord meeting the revenue demand. The *batai* sub-tenure, which is in all respects similar to the *mezzadria* or *metayer* system, is very common in Berār, but less so than formerly, as it is being replaced by leases for money, owing to much of the land having fallen into the hands of classes which do not cultivate. Statistics of the money rent usually paid are not available. The ordinary conditions of *batai* are that the lessor receives half the produce and pays the land revenue, while the lessee bears all the expenses of cultivation and takes the other half. Sometimes the lessee contributes a proportion, not exceeding one-third, of the land revenue, or agrees to pay half the land revenue and hands over to the lessor one-fourth only of the produce. For garden land the lessee, as a rule, delivers only one-third of the produce, as the expense of cultivating land of this class is heavy.

The average daily wage for the last thirty years is R. 0–11–7 for skilled and R. 0–3–4 for unskilled labour, the rates for the province in different years ranging between R. 0–12–9½ and R. 0–9–1 and R. 0–3–11 and R. 0–2–7. The lowest rates are those of the famine year 1899–1900, when food was only less costly than it was in the following year. There was a similar though far less marked fall of wages in 1896–7, which was a year of scarcity and high prices, and it has been observed that wages do not rise with the rise in the price of food. In years of famine, however, Government steps in as an employer of labour, and provides all those in actual want with a living wage.

Wages vary from year to year in different Districts and localities, but the variations are not constant and are due to ephemeral and not to permanent local conditions. The Melghāt *tāluk*, where wages are ordinarily lower than elsewhere, is an exception. Though wages have from time to time fluctuated during the past thirty years, they have, on the whole, varied so little that it cannot be said that they have been affected by the introduction of factory labour. The railway has, however, reduced wages for skilled labour, which could always command R. 1 per diem before the railway, by facilitating communication, brought the rate down to that which prevailed in other Provinces.

The average prices of the principal food-grains, in seers and chittacks per rupee, in 1903–4 were as follows: *jowār*, 22–1; wheat, 10–7; gram, 14–13; rice, 8–12. These are slightly above the standard, but prices were much disturbed by the famine of 1899–1900, and are returning to the normal by slow degrees. Prices vary considerably

in different Districts from year to year; but as the variations are not constant, they furnish no materials for an estimate of the conditions of any particular locality.

The increase in the cultivated area seems to have had no effect on prices, but the natural tendency of this increase towards the reduction of prices may have been counteracted by the improvement in means of communication. This improvement has not affected the price of *jowār*, which is not grown for export; and though wheat is dearer now than it was thirty years ago, it is doubtful whether the rise in price is due to increased facilities for exportation. The effect of famine on prices is very marked. Thus in 1895–6 *jowār* sold at nearly 23 seers for the rupee, while in the following year, which was a season of scarcity, only $11\frac{2}{3}$ seers could be obtained for that sum. In 1898–9 a rupee purchased $27\frac{2}{3}$ seers, but in the famine year which followed it would purchase no more than $18\frac{1}{3}$ seers, in spite of low prices in the early part of the year; while in 1900–1 the average rate was $11\frac{1}{2}$ seers for the rupee, 5, 6, or 7 seers being the ordinary rate during the first six months of the year 1900, when the effects of the famine were most severely felt.

Another cause sometimes operates to reduce the price of grain. Thus, in 1880–1, 38 seers, and in 1884–5, $30\frac{1}{2}$ seers of *jowār* could be purchased for a rupee. The fall in price was attributed in each case to the late rains, which in the former year made it impossible to store grain, and in the latter damaged the grain already stored.

The standard of comfort in Berār, though not high, is probably no lower than in any other rural tract in India. The house of the middle-class clerk, for which he probably pays a rent varying from Rs. 2 to Rs. 10 a month, is scantily furnished. His food costs him but little, for he is, in all probability, a Brāhman, and therefore a vegetarian; but he uses such luxuries as wheat, rice, milk, *ghī*, and sweetmeats more freely than does the cultivator. His clothes are of fine cotton cloth, the *dhotī* having usually a border of silk, and he wears a silken turban; but the whole outfit is so seldom renewed that it costs him comparatively little. The cultivator's style of living and the character of his house depend on the size of his holding; but the distinction between the well-to-do and the impoverished cultivator consists largely in the quantity and quality of the jewellery worn by the women of the family. The cultivator's clothes are of coarse cotton cloth. The labourer's standard of living is similar to the cultivator's, but lower. His house is smaller and meaner, his cooking pots fewer, his food scantier, and his family jewellery less costly. There has been no perceptible change in the standard of living of these classes. So little does the cultivator understand physical comfort that when he was suddenly and temporarily enriched by the rise in the price of cotton, which was one of the results

of the American Civil War, he was sometimes unable to find a better outlet for his wealth than the replacement of his iron ploughshares and cart-wheel tires by shares and tires of silver.

PRICES OF CERTAIN STAPLES IN BERĀR

	Average price (in seers per rupee) for ten years ending			1903-4.
	1880.	1890.	1900.	
Jowār	21·5	26·15	20·1	22·04
Wheat	14·9	18·7	12·5	10·46
Gram	15·5	21·6	14·0	14·81
Rice	9·13	10·0	8·0	8·78
Salt	Not available	10·15*	9·15	10·75

* Average for seven years only.

Forests.

The Berār forests are divided into three classes: (A) areas reserved for the production of timber and fuel; (B) *ramnas*, or areas reserved for the growth of grass for fodder; and (C) grazing lands[1]. The tree growth has already been described under Botany.

The forests are under the control of a Conservator, subordinate to whom are five Forest officers in charge of divisions, which are conterminous with administrative Districts except in the case of the Buldāna division, which includes both Buldāna and Akola Districts. Forests of Class A are carefully protected from fire and grazing, except during a severe famine, when they are sometimes thrown open to grazing. The forests of Class C, which are primarily pasture lands, fall under two divisions: those in which grazing is regulated and paid for, and those in which grazing is free.

Only a small proportion of forest produce is extracted by departmental agency. The greater part is removed by purchasers and privilege-holders, or by those to whom special free grants have been made. The administration of the forests has been sympathetic, and the relations of the Forest department with the people are generally excellent. The forests supply the local demand for timber, fuel, bamboos, and fodder, exports beyond the limits of the province being usually unimportant: they also serve as reserves of fuel and fodder, the existence of which was much appreciated by the people in the famine of 1899–1900, when the opening of forests of Class A to grazing saved the lives of thousands of cattle and provided large supplies of fodder.

Preventive measures against fire are carried out. Such fires as occur are usually the result of carelessness and neglect of forest regulations.

The area of forest lands in the province in 1903–4 was 3,941 square

[1] A new class of state forests called 'Village fuel and pasture reserves' will shortly be formed, and will remain under the control of the Revenue department.

miles, of which Class A forests occupied 1,770, Class B 83, and Class C 2,088 square miles. The average revenue, expenditure, and surplus for the ten years ending 1900 were Rs. 4,64,000, Rs. 2,32,000, and Rs. 2,32,000, respectively, while in 1903–4 the revenue was Rs. 6,13,000, the expenditure Rs. 2,56,000, and the surplus Rs. 3,57,000.

Mines and minerals.

There are at present no mines, but the prospects of successful coal-mining in the south-eastern corner of the province are good.

Arts and manufactures.

The manufactures are few and unimportant. They are chiefly confined to twist and yarn, coarse cotton cloth, and the productions of unskilled craftsmen. Silk-weaving is carried on at Kholāpur in Amraotī District, where *pītāmbars* are made; cotton carpets are woven at Akot and Ellichpur; *sārīs*, turbans, *khādīs*, and blankets are made in several parts of the province, and *khādīs* of different textures and colours at Ellichpur and Wūn. There are also communities of dyers in some towns and villages, but their work calls for no special notice. The only spinning and weaving-mill in the province, at Badnera, is the property of the Berār Manufacturing Company, Limited. It started work in 1885, and produces yarn and cotton cloth. The following table gives some statistics of its progress :—

	1890–1.	1900–1.	1903–4.
Number of looms	214	248	248
Number of spindles	16,580	16,992	16,336
Hands employed	843	1,228	882

In 1891 it worked up 17,128 cwt. of raw cotton into yarn and cloth, and in 1901 it similarly worked up 25,288 cwt. of raw cotton. The out-turn in 1902–3 was 21,337 cwt. of yarn and 9,689⅓ cwt. of cloth. The greater part of its produce is sold locally. The monthly wages of skilled labour in this factory vary from Rs. 35 to Rs. 5-4-0, and those of unskilled labour from Rs. 8 to Rs. 5. The most important industry in the province is the ginning and pressing of cotton in steam factories. The following table shows the rapid advance made during the last twenty-four years :—

	1881.	1891.	1903.
Number of ginning factories	...	48	153
Number of steam presses	6	27	59

Migration from rural areas into towns is principally due to the growth of this industry. The supply of labour is adequate, and the great majority of the hands employed belong to the province. A man earns on an average Rs. 9 to Rs. 9-8-0, a woman from Rs. 4-12-0 to

Rs. 5, and a child from Rs. 4-3-0 a month. The material condition of the factory hands is good.

Commerce and trade.

The only information concerning the trade of Berār prior to the Assignment in 1853 relates to raw cotton, the principal product of the province. The first exportation direct to Bombay was made by Messrs. Pestonjī & Co., merchants of Bombay and Hyderābād, in 1825-6. It consisted of 500 bullock-loads, weighing 120,000 lb. and valued at Rs. 25,000. General Balfour, writing in 1847, said that the trade had by that time been principally diverted to Bombay, but that most of the Berār cotton had formerly been taken 500 miles on pack-bullocks to Mirzāpur and there shipped in boats for Calcutta. After the Assignment, the extension of the Great Indian Peninsula Railway from Bhusāwal to Nāgpur and the construction of metalled roads greatly stimulated the trade with Bombay, and the pack-bullock became a thing of the past.

The chief centres of trade are Amraotī, Akola, Khāmgaon, and Shegaon; and the channels of trade are the Nāgpur branch of the Great Indian Peninsula Railway, and the metalled roads connecting it with trade centres of minor importance. The table on the next page shows the general character of the trade of Berār. The enormous increase in the importation of grain and pulse in the decade ending 1900-1 is attributable to the large importations during the years 1896-7 and 1899-1900, which were years of scarcity and famine. There is no Chamber of Commerce in the province.

The internal trade is unimportant and calls for little notice. The agriculturist or labourer buys what he wants at weekly markets held at the old *pargana* towns and other large villages. Cotton cloth and yarn manufactured in the Badnera mills, and silken *pītāmbars* or *lugades* made in the province, are among the principal articles of internal commerce besides agricultural produce. The weaving castes are the Sālīs and Koshtīs, and the Mahārs weave coarse blankets. Kāsārs and Lohārs make the ordinary utensils of brass, copper, and iron. The ordinary earthen utensils used by the people are made by Kumhārs, the tiles used for roofing purposes being made principally by members of this caste from Northern India, who visit Berār during the cold and hot seasons, returning to their homes before the rains break.

Berār, being an inland province, has no registered trade beyond the frontiers of India, but the greater part of the surplus produce of raw cotton and grain and pulse is exported by sea from Bombay.

Experience has shown that the road-borne trade is not worth registering; and the external trade of the province may be briefly described as consisting of the export by railway of agricultural produce, chiefly raw cotton, and the import by the same means of simple necessaries of life, manufactured articles, and a few luxuries not produced locally.

STATISTICS OF THE VALUE OF THE TRADE OF BERĀR WITH OTHER PROVINCES OF INDIA FOR THE YEARS 1890–1, 1900–1, AND 1903–4

(In thousands of rupees)

	By rail.		
	1890-1.	1900-1.	1903-4.
Imports.			
Cotton twist and yarn	8,71	5,99	7,04
,, piece-goods	43,13	41,21	48,15
Grain and pulse	17,17	91,09	55,77
Metals and manufactures of metals	16,02	21,02	58,20
Oils	10,79	9,82	13,18
Provisions	18,96	25,52	30,63
Salt	14,01	13,49	12,66
Spices	14,18	12,68	13,86
Sugar	22,52	30,47	35,02
All other articles	22,88	21,50	72,22
Total	1,88,37	2,72,79	3,46,73
Treasure	...	1,65,96	2,43,25
Exports.			
Cotton goods	11,11	47,16	7,23
,, raw	3,20,97	3,37,44	5,87,19
Grain and pulse	14,16	7,54	84
Oilseeds	36,17	41,92	32,75
Provisions	3,04	2,16	1,47
Spices	84	1,55	88
Sugar	42	2,03	1,96
All other articles	14,51	14,93	26,11
Total	4,01,22	4,54,73	6,58,43
Treasure	...	22,03	82,39

Communications. Berār is traversed from east to west by the Nāgpur branch of the Great Indian Peninsula Railway, the length of the line in the province being 152 miles. From this main line two small state railways branch off, one from Jalam to Khāmgaon (8 miles) and the other from Badnera to Amraotī (6 miles). The Khāmgaon and Amraotī State Railways are worked by the Great Indian Peninsula Railway Company. The capital outlay on the former was 5·2 lakhs, and on the latter 4·5 lakhs. During the ten years ending 1901–2 their receipts averaged Rs. 52,100 and Rs. 98,800, and their expenditure was Rs. 30,600 and Rs. 59,000; and their net profits averaged Rs. 21,500, or 4·12 per cent. on the capital outlay, and Rs. 39,900, or 8·82 per cent. on the capital outlay. There is one mile of railway in the province to every 107 square miles of country.

The railway has proved to be of the greatest use and benefit to the people in years of famine, large supplies of food-grains having been imported, especially in 1899–1900, from long distances, as in the case of rice, which was imported from Burma via Calcutta. The tendency of railway traffic is to bring about uniformity of prices. Thus scarcity in other parts will now undoubtedly cause a rise in prices in Berār, which would probably not have occurred at all, or would have been more gradual and less marked, before the introduction of railway communication; but, on the other hand, the railway prevents countless deaths from starvation when the crops in Berār fail, so that the advantages of railway communication in this respect far outweigh its disadvantages. The railway may have removed or modified some caste prejudices; but, so far as has been observed, these prejudices seem to be merely in abeyance during a journey, the social habits of the people being unaffected by the temporary relaxation of customary restrictions. The effect on language in Berār is not noticeable.

The railway has altered the entire course of communications. Instead of the single line of communication provided by the old Nāgpur *dāk* road, which traversed the province from south-west to north-east, we have the main line of communication provided by the railway, with a system of feeder-roads running north and south from it. Thus to the south there are roads connecting the railway (1) with Yeotmāl, Wūn, and Dārwhā; (2) with Kāranja and Bāsim; (3) with Bāsim, Pusad, Umarkhed, and Hingolī; and (4) with Buldāna, Chikhlī, and Mehkar; while to the north roads run (1) to Morsī and Warud, (2) to Ellichpur and Chikalda, (3) to Daryāpur, (4) to Akot, and (5) to Jalgaon. The result of this extension of the road system has been that wheeled transport has completely displaced pack transport, and the Banjārā has lost his former means of livelihood. The main lines of roads are Provincial, the District boards having as yet taken charge of very few roads. There was no important change in the road system of the province between 1891 and 1903. The total length of Provincial roads in 1891 was 857 miles, and in 1903 862 miles, the cost of maintenance per mile being Rs. 436 in 1891, and Rs. 202 in 1903. For roads maintained at the cost of Local funds no figures are available. These consist principally of a few fair-weather tracks, unmetalled and practically unbridged.

The conveyances in general use are the *bandī*, a large cart used for carrying cotton and other agricultural produce; the *kāchar*, a two-wheeled cart capable of holding several persons; and the *rengī*, a small and very light cart drawn by trotting bullocks, and capable of holding one or at most two persons besides the driver.

Berār forms, for postal purposes, a part of the Central Provinces and Berār Circle, which is in the charge of a Deputy-Postmaster-

General. The following statistics show the advance in postal business in the province since 1880:—

	1880-1.	1890-1.	1900-1.	1903-4.
Number of post offices .	102	69	164	186
Number of letter-boxes .	167†	116†	125†	156
Number of miles of postal communication . .	939	1,567	1,485	1,251½
Total number of postal articles delivered:—				
Letters . . .	*	2,614,485†	2,925,579†	2,649,296
Postcards . .	*	1,176,734†	2,254,284†	2,667,730
Packets . . .	*	122,513†	411,026†‡	242,034‡
Newspapers . .	*	311,397†	244,394†‖	435,474‖
Parcels . . .	*	26,002†	42,992†	39,384
Value of stamps sold to the public . Rs.	42,688†	88,169†	1,16,624†	Not available
Value of money orders issued . . Rs.	*	27,26,810†	45,66,560†	37,92,138
Total amount of savings bank deposits . Rs.	...	*	8,68,905†	12,07,720

* The figures are included in those given for the Central Provinces.
† The figures marked thus include the figures for the post offices in Hyderābād State included in the Central Provinces and Berār Postal Circle.
‡ Including unregistered newspapers. ‖ Registered as newspapers in the Post Office.

The statistics given above relate to both the Imperial and the local or District post. The latter system provided postal communications required for magisterial and police purposes, the upkeep of which was not warranted under the commercial principles of the Post Office. It was maintained by contributions from District boards supplemented by a Government grant. The number of District post offices in 1904 was 30, and the total length of District post mail lines 554 miles. Official correspondence conveyed entirely over District post lines was carried free. The two systems were amalgamated in 1905.

Famine.

Berār was for many years considered to be specially favoured by nature; and so lately as in 1893 it was officially reported that no programme of relief works was required, as the province was immune from famine. The Administration was thus utterly unprepared to cope with distress arising from scarcity when in 1896 the crops partly failed.

Scarcity and famine in Berār, as in most other parts of India, are due to the failure of the south-west monsoon, and the intensity of the calamity varies with the extent of the failure; but oppressively high prices are liable to occur even when the harvest in Berār has been fairly good, if severe famine in other parts of India stimulate the export of grain.

The Melghāt is more liable to famine than any other part of Berār, owing to the comparative poverty of the soil and the thriftlessness of the aboriginal cultivators, but no distinction can be drawn between

other parts of the province. It so happened, both in 1896–7 and in 1899–1900, that Wūn District, in the south-eastern corner of the province, suffered less than other Districts, but its more favourable circumstances were purely fortuitous.

The staple food-grain of the province, *jowār*, and also the pulse most commonly eaten being both *kharīf* crops, this harvest is naturally the more important. The only important food-grain grown as a *rabi* crop is wheat, which, though eaten by the well-to-do, is regarded more as a crop for export than as an addition to the food-supply. Moreover, the *rabi* harvest, never very important as a source of food-supply, has for some years past continuously decreased, owing to the failure of the late rains.

Hitherto indications of famine have been slower to declare themselves in Berār than elsewhere, and the first warning of the calamity has been a sudden rise in the price of grain, owing to exports. The partial failure of the crops and the appearance of wanderers in search of work are the next symptoms. In the famine of 1899–1900 immigration from the Nizām's Dominions, where relief measures were imperfect, was so extensive as seriously to embarrass the Administration, and immigration from that State will probably be a factor to be reckoned with in any future programme of relief measures.

Had the history of Berār been more carefully studied, it is probable that the optimistic views advanced in 1893 would never have found expression; for, though the province may have been, on the whole, more fortunate than other parts of India, there is ample evidence that it has, in the past, suffered severely from famine.

In the reign of Muhammad Shāh Bahmani (1378–97) Berār, in common with the rest of the Deccan, was devastated by a terrible famine; and it is highly improbable that it escaped the famine of 1417, which affected the greater part of the Deccan. Again in 1472–3, Mālwā and the Deccan, including Berār, were wasted by a famine which lasted for two years and caused wholesale emigration to Bengal and Gujarāt. In 1630–1, the fourth year of the reign of Shāh Jahān, there was a terrible famine throughout Gujarāt, Khāndesh, Berār, and the province of Daulatābād. The flesh of dogs was sold by butchers as goat's flesh, the crushed bones of the dead were mingled with the flour exposed for sale, and parents devoured their children.

It is unnecessary to discuss distress and scarcity due directly to misrule and to intestinal wars and disturbances, since these are no longer a factor in the liability of the country to famine. Berār did not escape the famine of 1833, which caused considerable distress, as did also the famine of 1839 and the scarcity in 1862.

In 1896 there was a partial failure of the rains; and though the province produced grain sufficient for its own needs, the simultaneous

appearance of famine in other parts of India stimulated the export of grain and caused distress by raising prices. Actual famine conditions prevailed in the Melghāt, Akola District, and the Malkāpur *tāluk*.

An almost total failure of the rains in 1899 was followed in 1900 by a severe famine. Except in Wūn District, the failure of crops was complete; and the distress lasted till late in 1900, when copious rain and the prospects of a good harvest caused a fall in prices and restored the labour market to its normal condition.

A general increase in mortality during a famine is inevitable. In Berār it has been found that the mortality increases gradually until the hot season has set in. It then increases more rapidly, but does not reach its highest point until a considerable quantity of rain has fallen. Thus, in 1900 the highest death-rate (12 per 1,000 in the month) was not reached till August. The rapid increase after the commencement of the rains is due to inevitable exposure, to bowel complaints caused by the consumption of foul water and rank green-stuff, and to endemic diseases, the virulence of which is naturally more marked when large numbers are predisposed to disease. A very distinct decrease in the birth-rate is observable in the year following a famine.

An extensive system of irrigation is impracticable in Berār, though storage tanks might perhaps be constructed in the Melghāt and the Bālāghāt. Protective measures, other than the maintenance and extension of railway communication, are therefore confined to preparation for emergencies. Programmes of large and small relief works are maintained, and during a famine a system of village relief by the distribution of cooked and uncooked food is inaugurated. Poorhouses are opened for the decrepit and deformed, loans are freely granted to cultivators under the two Acts which govern their issue, private charity is stimulated, and those whose scruples prevent them from receiving gratuitous relief are helped by the opening of cheap grain-shops.

Administration.

From the Assignment in 1853 until 1903, the administration of Berār was conducted by the Resident at Hyderābād, who exercised, in respect of the province, the powers of a Chief Commissioner. His Secretariat consisted of his two Assistants, besides a Secretary and an Assistant Secretary in the Public Works department, while the Comptroller at Hyderābād exercised a general control, under the Resident, in financial matters. In 1903 the administration of Berār was transferred, in pursuance of the agreement of 1902, from the Resident at Hyderābād to the Chief Commissioner of the Central Provinces.

The province forms one Division, under a Commissioner, and up to 1905 was divided into six Districts—AMRAOTĪ, ELLICHPUR, WŪN, AKOLA, BULDĀNA, and BĀSIM—each under the charge of a Deputy-Commissioner. These have now been rearranged and form four Districts: Amraotī,

Akola, Buldāna, and Yeotmāl. The Deputy-Commissioners have a staff of Assistant Commissioners and Extra-Assistant Commissioners, who exercise magisterial, civil, and revenue powers, and *tahsīldārs*, who exercise criminal and revenue powers. Each *tahsīldār* has charge of a *tāluk*, of which there are twenty-two in the province. Assistance in petty magisterial cases is rendered by special or honorary magistrates, of whom there are 31, including 23 who sit as benches, in five of the most important towns. A Superintendent of Police manages the police of each District, in subordination to the Deputy-Commissioner, and there are three Assistant Superintendents in the province. The District jails are under the charge of the Civil Surgeon at the head-quarters of each District. The province is divided into five Forest divisions, each of which is managed, under the control of the Deputy-Commissioner of the District within the limits of which the forests are situated, by a Deputy, Assistant, or Extra-Deputy-Conservator. These officers are subordinate in departmental matters to the Conservator of Forests in Berār.

The last link in the chain of administration consists of the village officers, the *pātel* and the *patwāri*, whose offices are hereditary. The *pātel* has generally both revenue and police duties. He collects the revenues in his village, and is superintendent of the *jāglyas* or village watchmen. He is bound to give timely information of all crimes, and in cases of necessity may make arrests. In some large villages the offices of police and revenue *pātel* are held by different individuals. The *patwāri* is the village accountant. He prepares the annual *jamābandī* or statement showing the occupant, area, rental, and crop of every field in his village or circle, keeps all the village papers and registers, applications for and relinquishments of land, and statements showing transfers. He and the *pātel* are responsible that every payment of revenue is duly written up in the receipt-book which every registered occupant of land holds. *Pātels* and *patwāris* are remunerated by a fixed percentage of the land revenue, forest dues, and town fund taxes collected by them. The work of the *patwāris* is immediately supervised by *munsarims*, of whom two or more are attached to each *tāluk*. *Munsarims* will soon probably be replaced by circle inspectors under the supervision of District inspectors.

Legislation and justice.

Berār has no local legislature, and Acts of the Indian Legislative Council do not apply *proprio vigore* to the province, which is not legally a part of British India. They are, however, generally made applicable to it by executive order of the Governor-General-in-Council, and the same authority makes local laws and rules for the province. The Resident at Hyderābād was formerly, and the Chief Commissioner of the Central Provinces is now, empowered to make subsidiary rules under

certain Acts and laws. Owing to the extensive application of Acts of the Legislative Council to the province, the administration of civil and criminal justice is in all respects similar to the administration of justice in a non-regulation Province of British India. The chief local laws passed since 1880 have been the Excise Law (1897), the Rural Boards Law (1885), the Municipal Law (1886), the Land Revenue Code (1896), the Berār Courts Law, and the Berār Small Cause Courts Law (1905).

In 1905, after the transfer of Berār to the Central Provinces, the Berār Courts Law and the Berār Small Cause Courts Law came into force; and the province is now divided, for the purposes of the administration of justice, into the two civil districts of East Berār, consisting of the revenue Districts of Amraotī and Yeotmāl, and West Berār, consisting of the revenue Districts of Akola and Buldāna. In each of the two civil districts a District Judge hears civil suits without limit as regards value, and is assisted by an Additional District Judge. Subordinate Judges, with powers to try and determine suits of which the value does not exceed Rs. 5,000, hold their courts at Amraotī, Morsī, Ellichpur, Daryāpur, and Yeotmāl in East Berār, and at Akola, Bāsim, Khāmgaon, and Buldāna in West Berār; and Munsifs, with power to try and determine suits of which the value does not exceed Rs. 500, sit at Amraotī, Morsī, Ellichpur (where there are two), Yeotmāl, and Dārwhā in East Berār, and at Akola, Bāsim, Malkāpur, and Mehkar in West Berār.

Appeals from the decrees of subordinate courts lie to the District and Additional District Judges; and appeals from the District courts lie to the court of the Additional Judicial Commissioner in Nāgpur, which is the Provincial High Court. Appeals from this court, when allowed by law, lie to the Privy Council.

Courts of Small Causes, with power to try suits of a civil nature not exceeding Rs. 1,000 in value and cognizable by such courts, are established at Amraotī in East Berār and at Akola and Khāmgaon in West Berār.

The limits of the two Sessions divisions coincide with those of the civil districts, in which the District and Additional District Judges exercise the powers of Sessions Judges. Sessions are held in alternate months at Amraotī and Yeotmāl in East Berār, and at Akola and Buldāna in West Berār. Deputy-Commissioners as District Magistrates are empowered under section 30 of the Code of Criminal Procedure to try as magistrates all offences not punishable with death, but they exercise this power only in exceptional circumstances. Subdivisional magistrates, with power to hear appeals from convictions by magistrates of the second and third classes and to call for records, are stationed at Ellichpur, Bāsim, and Khāmgaon.

Appeals lie from the Courts of Session to the Additional Judicial Commissioner at Nāgpur, by whom also all sentences of death must be confirmed. Original and appellate jurisdiction over European British subjects in Berār is exercised by the High Court at Bombay.

The number of criminal cases brought to trial varies but slightly from year to year; but in years of scarcity a great increase is always noticed in the number of serious offences against property, accompanied by a corresponding decrease in petty cases of assault, trespass, and the like. At such times a marked decrease occurs in civil litigation, followed, on the return of prosperity, by an abnormal increase, especially in suits affecting real property.

The Registration department is controlled by the Inspector-General of Registration. In each District a District registrar is appointed, usually an Extra-Assistant Commissioner, to whom sub-registrars of circles, who are the actual registering officers in all ordinary cases, are subordinate. The average number of registration offices during the decennial periods ending 1890 and 1900 was 59 and 66. In 1903 there were 68 offices. The number of documents registered in the two decennial periods averaged 25,500 and 34,500, and was 37,400 in 1901.

TABLE SHOWING THE NUMBER OF CRIMINAL CASES BROUGHT TO TRIAL IN BERĀR

	Average for ten years ending 1890.	Average for ten years ending 1900.	1901.	1903.	Percentage of convictions, 1903.
Number of persons tried:—					
(*a*) For offences against person and property	12,962	15,224	11,962	5,636	15
(*b*) For other offences against the Indian Penal Code	1,273	1,708	869	776	29
(*c*) For offences against special and local laws	5,082	1,713	13,571	7,256	88
Total	19,317	18,645	26,402	13,668	58

TABLE SHOWING THE NUMBER OF CIVIL SUITS INSTITUTED IN BERĀR

	Average for ten years ending 1890.	Average for ten years ending 1900.	1901.	1903.
Suits for money and movable property	22,431	21,173	21,141	14,618
Title and other suits	2,361	3,727	6,465	5,920
Total	24,792	24,900	27,606	20,538

Finance.

The following figures, showing, in thousands of rupees, the revenue collected under various heads in 1853-4, the year after the Assignment of Berār, indicate the principal sources of revenue under native rule:—

Land revenue	19,15	*Sāyar*, or town duties	71
Frontier and transit duties	1,95	Salt wells	19
Abkāri	90	Miscellaneous	22

About 74 per cent. of the revenue raised by or for the Nizām represented the assessment on the land. Other relatively important headings, such as transit and town duties and salt wells, have long since disappeared from the public accounts.

Former methods of taxation were most oppressive, for the greater part of the province was usually leased out to bankers in payment of debts due to them by the Hyderābād State, and they levied what they could. All were not equally extortionate, but the uncertainty of their tenure offered no inducement to ameliorate the condition of the cultivator. The last of these great farmers had to give up his lease in 1845; and for the next eight years the *khālsa* land was administered by officers of the Nizām's government, whose yoke was probably no lighter than that of the farmers. It was customary for an officer appointed to any important administrative post to pay, on his appointment, a large donation, which he recovered from his charge. The people had scarcely recovered from these imposts, when the *tālukdārs* got wind of the Assignment to the British, and promptly raised the land revenue demand, in order that they might carry off as much as possible. So much had Berār suffered that, when it was 'assigned,' the revenues of this rich province were estimated, by a government which certainly had no temptation to underestimate them, at little more than 30 lakhs, while the actual collections in 1853-4 fell short of 26 lakhs. In 1860-1 they had risen to 40 and in 1869-70 to 83½ lakhs.

The Provincial contract system was introduced in 1880, the Resident's expenditure under the heads 'Civil,' and 'Public Works, including Railways,' being limited to 54 per cent. of the gross revenue. From the year 1882-3 the percentage was reduced to 52, and again in 1887-8 to 50, which rate, although fixed for five years, was found to be insufficient, and was raised to 51 in 1889-90. The percentage was again reduced to 50 for the quinquennium which ended in 1896-7, and this arrangement continued until the lease of Berār to the Government of India in 1903.

The following figures show, in lakhs of rupees, the principal variations in land revenue collections since the Assignment, the years selected being those in which the variation has been most marked:—

1853-4	19	1875-6	67
1872-3	53	1902-3	74½

Collections in 1901–2 amounted to more than 89½ lakhs, but this total included many arrears. The remarkably rapid increase in the course of the twenty years which followed the Assignment is attributable rather to the extension of cultivation than to enhancement of the demand. Excise revenue has similarly increased, but more gradually and less continuously. It reached nearly 17 lakhs in 1891–2, but declined from that year onwards owing to the abolition, in the more populous parts of the province, of the out-still system and the introduction of a more elaborate system of excise administration. The disappearance of some heads of revenue from the public accounts has already been mentioned. Their loss has been much more than counterbalanced by the revenue raised from sources untapped under the former rule. Stamps were introduced in 1857, and by 1869–70 realized 4·6 lakhs. In 1903–4 the income from this head amounted to 8 lakhs. Forests are another source from which former rulers drew no revenue; but the control and administration of the forests was undertaken shortly after the Assignment, and forest revenue, which in 1869–70 was less than 2 lakhs of rupees, amounted in 1903–4 to Rs. 6,12,527. Registration was first introduced in 1877–8. The discovery of new sources of revenue has been accompanied by the opening of new channels of expenditure. Education was not provided by the state till 1862, and ten years later the expenditure amounted to less than 2½ lakhs. In 1903–4 it was more than 5 lakhs. Medical relief was also unknown under native rule. In 1870–1 little more than a lakh was spent under this head. Rather more than 1½ lakhs is now spent annually; but in 1900–1, the year after a severe famine, the expenditure was 2¼ lakhs. The expenditure on public works increased steadily until 1892–3, when it reached nearly 15 lakhs. Since that time more rigid economy has been practised, and the expenditure has gradually declined.

A distinctive feature of Berār finance before the lease was the heavy military expenditure, which was necessarily an important item, for the province was specially assigned for the maintenance of the Hyderābād Contingent, a force which consisted of four regiments of cavalry, four batteries of artillery, and six regiments of infantry. Statistics of this expenditure will be found on p. 405. They show, as might be expected, a steady and progressive increase, due to the necessity of maintaining the standard of efficiency attained by the regular Indian army.

Land revenue.

Berār has been settled on the Bombay *ryotwāri* system, under which each field forms a holding for which the occupier engages separately with Government. The whole province, with the exception of the Melghāt and some uncultivated tracts in Yeotmāl and Akola Districts, was measured, classified, and assessed, field by field, by the close of 1878. The settlements, which were for a term of thirty years, commenced to expire in 1891. Revision

operations have now been completed for the whole province except the *tāluks* of Kelāpur, Yeotmāl, and Wūn in Yeotmāl District, where the work did not commence till 1904.

PRINCIPAL SOURCES OF PROVINCIAL REVENUE IN BERĀR

(In thousands of rupees)

	Average for ten years ending March 31, 1890.		Average for ten years ending March 31, 1900.		Year ending March 31, 1901.		Year ending March 31, 1904
	Total amount raised (Imperial, Provincial, and Local).	Amount credited to Provincial revenues.	Total amount raised (Imperial, Provincial, and Local).	Amount credited to Provincial revenues.	Total amount raised (Imperial, Provincial, and Local).	Amount credited to Provincial revenues.	Total amount raised (Imperial, Provincial, and Local).
Land revenue	63,98	63,98	64,25	64,21	80,17	80,15	78,30
Opium	1,85	1,85	1,60	1,60	1,50	1,50	...
Stamps	6,60	6,60	8,31	8,31	6,74	6,74	8,48
Excise	13,45	13,45	13,78	13,78	9,85	9,85	19,94
Provincial rates	4,73	...	5,87	...	6,37	...	6,47
Customs	...	...	7	7	15	15	17
Assessed taxes	...	...	69	...	89	...	1,42
Forest	3,30	3,30	4,72	4,72	3,03	3,03	6,07
Registration	56	56	84	84	81	81	97
Other sources	2,80	2,59	4,79	3,45	4,68	3,27	5,21
Total	97,27	92,33	1,04,92	96,98	1,14,19	1,05,50	1,27,03

The holder of a field or 'survey number' is called the registered occupant or *khātedār*, and he holds on condition of paying the assessment and other dues. Failure to pay these dues renders him liable to forfeit the right of occupancy and all rights connected with it, such as those over trees and buildings on the land. Land thus forfeited reverts to Government, and the right of occupancy is put up to sale by auction after due notice. No occupant is bound to hold his land for more than a single year. He may, on giving due notice, relinquish it, or he may dispose of the occupancy right by sale or otherwise to another; but he is responsible for the revenue of the year in which he relinquishes or transfers his right. An occupant may, if he chooses, retain his occupancy right for ever, subject to the payment of the assessment and dues, which are liable to revision once every thirty years. He may also sublet his holding, but only by private arrangement, which finds no place in the revenue records.

This description applies to the *ryotwāri* tenure, which is the ordinary tenure of Berār. The extraordinary tenures are *jāgīr*, *inām*, *ijāra*, and *pālampat*. The term *jāgīr* means any rent-free holding of one or more villages. Nearly all the *jāgīrs* in Berār have been granted either by

the Delhi emperors or by the Nizāms, one or two only by the Peshwas. The term *ināni* is applied to fields as *jāgīr* is to villages. *Ināms* have been granted for charitable objects, for service in villages, offices, or in temples, and sometimes as purely personal favours. *Pālampat* tenure is similar to tenure in *jāgīr*, but the holding is not entirely free. A fixed proportion of the rent is paid to Government. *Deshmukhs* and *deshpāndyas* in Wūn District hold a few *pālampat* villages under ancient grants.

PRINCIPAL HEADS OF PROVINCIAL EXPENDITURE IN BERĀR

(In thousands of rupees)

	Average for ten years ending March 31, 1890.	Average for ten years ending March 31, 1900.	Year ending March 31, 1901.	Year ending March 31, 1904.
Opening balance	42,92	41,18	– 16,58	...
Charges in respect of collection (principally land revenue and forest)	15,27	17,49	18,08	16,82
Salaries and expenses of civil departments—				
(*a*) General administration	2,41	2,97	3,17	1,96
(*b*) Law and justice	3,13	4,31	5,27	3,80
(*c*) Police	5,35	5,93	6,30	5,57
(*d*) Education	1,82	1,93	1,96	2,55
(*e*) Medical	1,32	1,50	2,09	1,72
(*f*) Other heads*	22	30	23	23
Pensions† and miscellaneous civil charges‡	4,90	7,37	7,92	2,57
Famine relief	...	4,04	80,39	...
Irrigation	...	...	...	...
Public works	10,76	9,19	4,68	6,09
Other charges and adjustments	1,84	2,31	1,76	25,65
Expenditure on account of the Hyderābād Contingent	31,32	38,62	39,12	...
Total expenditure	78,34	95,96	1,70,97	66,96
Closing balance	41,18	– 16,58	– 77,60	...

* Includes the heads 'Ecclesiastical' and 'Scientific and other minor departments.'
† Includes also the head 'Assignments and compensations.'
‡ Includes the heads 'Stationery and Printing' and 'Miscellaneous.'

The *ijāradār* is the lessee of an integral waste village, holding under a lease from Government, which may be for any term not extending beyond the next settlement of the *tāluk* in which the village is situated. For the first three years no rent is paid. In the fourth year either one-fifth or one-tenth of the full assessment has to be paid; in the fifth year

the rent is doubled, in the sixth trebled, and so on, until the full assessment is reached. The object of the lease being to encourage the breaking-up of the land for cultivation, tracts containing valuable timber are excluded, and quarrying or mining is prohibited; but special arrangements are made in the lessees' favour in the case of an excess of uncultivable land, and special rules are laid down with regard to grazing. During the currency of the lease the *ijāradār* is *pātel* and *patwāri* of the village; and at its expiry, when the village is liable to be surveyed and to have its assessment revised, the offices of *pātel* and *patwāri* are offered to him, and he is registered as the occupant of all land then actually occupied by him. Such are the rules of 1880, which are now in force. Under the former rules of 1865 the term of the lease was limited to thirty years; and the lessee had the option, on the termination of his lease, of constituting the village his property in perpetuity, subject to the payment annually to Government of one-half of a fair assessment, liable to revision every thirty years, upon the whole of the cultivated and cultivable area.

In 1901 the number of villages held under each class of tenure was as follows: *ryotwāri*, 6,133; *jāgīr*, 211; *ijāra*, 449; *pālampat*, 16. Of the assessment of *ryotwāri* villages amounting to 70·6 lakhs, land assessed at Rs. 75,500 was occupied by *ināmdārs*.

Persons holding by cultivation occupancy may be thus classified:—

(*a*) Registered occupants holding direct from Government, the fields being registered in their names;

(*b*) Persons possessing interests similar in kind to that of registered occupants; and

(*c*) Tenants.

The position of the registered occupant has already been described. Those who possess an interest similar to his are co-sharers and co-occupants. A co-sharer is a partner in a whole field, cultivating jointly with the occupant on the co-operative system; a co-occupant occupies and cultivates a specific portion of a field. Co-sharers and co-occupants may have co-sharers and co-occupants claiming under them and not directly from the registered occupant. There are two exceptional varieties of co-sharers: one who obtains a share in the profits by personal labour in the field, and one who obtains a share by supplying bullocks. The latter variety of sub-tenure is rare.

The land revenue of Berār in 1903–4 was 85 lakhs. It is estimated that, when the enhanced assessment of the *tāluks* of Murtazāpur, Amraotī, Morsī, Bāsim, Mangrūl, Ellichpur, Dārwhā, and Pusad—the levy of which has been postponed in order to allow time to recover from the effects of the famine of 1899–1900—is realized in 1906, the land revenue of the province will amount to 99 lakhs.

The unit of calculation in the land revenue assessment is, as has

been explained, the field or 'survey number,' but when a *tāluk* is to be assessed it is divided into groups of villages, classified according to the productiveness of soil and such adventitious advantages as means of communication and proximity to markets or railways. A maximum rate per acre is fixed for each group of villages, and in assessing single fields the fertility of the soil of each is considered. Soils are divided into three classes, for each of which a maximum assessment per acre is fixed. In determining the assessment the depth of the soil, and any defects, such as the presence of sand, of limestone nodules, or of a flow of water over any portion of the field, are considered.

The land revenue demand in the reign of Akbar amounted to 161½ lakhs, and fell in the reign of Shāh Jahān to 137½ lakhs. The famine of 1630–1 may account for the decrease, but it is probable that it was partly due to an equitable assessment based on Malik Ambar's settlement of 1612 and to the relinquishment of paper claims against Gond chieftains. These figures are, however, of little use for comparison with those of the present day, for Berār was, in the days of Akbar and Shāh Jahān, approximately twice as large as the present province. Moreover, we have no means of estimating the population of the province in Mughal times, or the area of the land actually under cultivation. All, therefore, that can be asserted is that the mean between the figures for the two reigns is approximately double the present assessment of Berār, so that, taking gross area alone into consideration, the Mughal cash assessment was about equal to the British cash assessment, notwithstanding the rise in the money value of agricultural produce. No margin remains to counterbalance the hardships entailed by former methods of collection. We know that in other parts of the empire, near the capital city and immediately under the eye of Todar Mal, who perfected Akbar's land revenue system, the rapacity of the *karorīs* or collectors brought upon them cruel punishments. It is not likely that provinces at a distance from the capital, often the seat of war, and overrun by troops, fared any better. The miserable condition of the province in the days of the later Mughal emperors, and during and after the Marāthā and Pindāri Wars, has been described. During the period which elapsed between the overthrow of the Pindāris and the Assignment of Berār to the East India Company, nobody but the revenue collectors and the ryots knew the rates at which land revenue was actually levied, for the province was leased out to farmers, who with perhaps a single exception squeezed as much as they could out of it.

The number of holdings in *ryotwāri* villages in Berār in 1901 was 392,123, the corresponding assessment being 67·8 lakhs, so that the incidence per occupant was very nearly Rs. 17–5. It is estimated that the land revenue demand amounts to 7 per cent. of the gross produce.

This being so, it is obvious that the assessment has no bearing whatever on the ability of the people to withstand famine, for in a prosperous year the cultivator would not feel a deduction of 7 per cent. from his gross produce. When crops failed completely—a phenomenon of very rare occurrence—he might be able to meet the demand from savings; but should he be unable to do this the demand would be postponed for a year at least, so that in the year following the failure of crops he would be able to pay 14 per cent. of the gross produce without hardship.

The principle observed in suspending and remitting land revenue in times of scarcity is that nobody should be compelled to borrow in order to meet the demand. *Tahsīldārs* are required to prepare lists of all landholders known to be able to meet the demand, and to recover it by the ordinary procedure. It is ordinarily assumed that recent purchasers, mortgagees in possession, occupants other than agriculturists, and occupants of fields which have yielded half of a normal crop are able to pay. The Deputy-Commissioner is empowered to suspend collections of land revenue due from persons who, by reason of their known inability to pay, have not been entered in the *tahsīldār's* list. When the prospects of the next *kharīf* crop can be estimated with some degree of accuracy, the Deputy-Commissioner submits to the Commissioner his proposals regarding the collection of arrears. Remissions of land revenue are few because, owing to the light assessment, they are generally unnecessary.

Miscellaneous revenue.

The cultivation of the poppy has not been allowed in Berār for many years, all opium required for local consumption being imported from either Indore or Bombay. The right to sell opium, whether wholesale or retail, is sold annually by auction. Wholesale vendors receive licences to import opium, which is stored by them at sub-treasuries or authorized storerooms, and may be sold to none but licensed retail vendors. The latter receive licences authorizing them to open shops in localities approved by the Deputy-Commissioner for the sale of opium to the general public, and in certain circumstances are permitted to import opium.

The following statement shows the net revenue realized from opium since 1881:—

		Rs.
Average	1881–90	2,97,000
Average	1891–1900	3,00,000
	1903–4	4,17,000

The figures for 1881–90 and 1891–1900 do not accurately represent the revenue derived from opium alone, for until 1893–4 the right to sell hemp drugs was included in the opium licences, and separate figures are not available.

The cultivation of the hemp plant in Berār has hitherto been

prohibited; and hemp drugs, i.e. *gānja* and *bhang*, are imported by licensed vendors from the Government warehouse at Khandwā under conditions similar to those which govern the importation of opium. Figures showing the revenue realized from hemp drugs alone are not available for years before 1894–5; but the average revenue for the six years ending 1899–1900 was Rs. 23,500, the actual revenue for 1903–4 being Rs. 51,000.

The manufacture and supply of country liquor (*mahuā* spirit) is regulated by two distinct systems. That known locally as the Madras contract distillery system prevails in the Districts of Amraotī, Ellichpur, and Akola, and in the Malkāpur *tāluk* of Buldāna District. These areas are supplied by two distilleries: one at Ellichpur, which supplies Amraotī and Ellichpur Districts, and the other at Akola, which supplies the other areas. In all other parts of Berār the out-still system prevailed till recently, the right to manufacture and sell country liquor in approved localities being sold annually by auction. From April 1, 1905, the distillery system was introduced.

The annual net revenue derived from country spirits rose from an average of 10·5 lakhs between 1881 and 1890 to an average of 11 lakhs in the next decade. The revenue declined almost continuously from 1893–4, the decrease being attributable to the introduction of the contract distillery system, and in later years to famine. But since 1901 there has been a great improvement in the revenue from this source. In 1903–4 the receipts amounted to 20 lakhs.

The revenue derived from imported liquors is trifling. For the seven years preceding 1901 the receipts averaged Rs. 1,947.

Each District treasury is a local dépôt for the sale of stamps, and every *tāluk* treasury is a branch dépôt. The treasurers or *potdārs* are *ex-officio* vendors of stamps. Besides the *ex-officio* vendors there are licensed vendors, including sub-postmasters, who are respectable men appointed by the Deputy-Commissioner, and receive discount according to the nature and value of the stamps sold and the place of sale.

The following table shows the net revenue from judicial and non-judicial stamps for the last twenty years:—

	Average, 1881-90.	Average, 1891-1900.	1901.	1903.
	Rs.	Rs.	Rs.	Rs.
Judicial stamps .	3,73,000	4,69,000	3,70,000	4,73,000
Non-judicial stamps .	2,55,000	3,12,000	2,60,000	3,32,000

Increases in the sale of *hundi* and receipt stamps are favourable signs, being usually attributable to briskness of trade, following a good cotton crop. Bad seasons have a marked effect on the sale of judicial stamps

for two reasons: namely, that the people cannot afford to go to law, and that the prospect of recovering anything, even if a suit be successful, is poor. Similarly, by affecting trade, they cause a decrease in the sales of general stamps, though this effect is largely counteracted by the necessity for borrowing. Plague in Bombay has had a detrimental effect on trade, and consequently on the sale of general stamps in Berār.

During the period of the Assignment income-tax was not levied in the province, except from officers of the administration. It has been introduced since the lease.

Local and municipal.

The Berār Rural Boards Law (1885) was the enactment which introduced local self-government into the province; but the first elections for *tāluk* boards did not take place till late in 1888 and early in 1889. The District of Wūn was at first excluded from the operation of the law, which was only extended to it in 1892, and the Melghāt *tāluk* has always been unrepresented.

The newly constituted District boards commenced their work in 1890; and although the law, the rules made, and the system of accounts laid down were not at first clearly understood, the working of the newly formed bodies has been on the whole satisfactory, and the members have displayed some interest in their duties.

There are now twenty-one *tāluk* boards, one for each *tāluk* outside the Melghāt, and six[1] District boards. The latter were composed in 1901 of 152 members, of whom 122 were elected. The *tāluk* boards had 373 members, of whom 243 were elected. The functions of District boards are generally those mentioned in Vol. IV, chapter ix; and their principal duties are in connexion with the upkeep of roads, schools, dispensaries, resthouses, and drinking-water sources. The *tāluk* boards form, in practice, the electorate for the District boards; and they constitute the local agencies for the carrying out of District board works, and for representing to the District boards the needs of their *tāluks*.

Speaking generally, it cannot be said that the principles of local self-government have made much headway. The percentage of actual voters to those entitled to vote is usually about 8 or 9, and sometimes as low as 3 or 4. Nine candidates out of ten would probably think it a greater honour to be appointed by Government to the membership of a board than to be elected.

Municipal administration was introduced into the towns of Amraotī, Akola, Ellichpur, Bāsim, Yeotmāl, and Khāmgaon in 1869, under special rules for the working of municipal committees drawn up under section 10 of Act XV of 1867. The committees were composed of both

[1] Reduced to four in 1905.

official and non-official members, the latter being in some committees nominated by the Resident and in others elected by the ratepayers. The elective principle was afterwards abandoned. The small town of Yeotmāl could not maintain a municipality, and the committee there soon ceased to exist. In 1881 Shegaon in Akola District was added to the list of municipal towns. In 1883 a conference was held to consider the best means of extending municipal self-government in Berār, and municipalities were invited to submit proposals. The next reform was the application of Punjab Act IV of 1873 to Berār, and in 1884 Akot, in Akola District, was made a municipal town. The Berār Municipal Law was passed in 1886, but did not come into full force till 1889–90. Since then elections have been regularly held under that law.

INCOME AND EXPENDITURE OF DISTRICT BOARDS IN BERĀR

	Average for ten years 1891–2 to 1900–1.	1901–2.	1903–4.
	Rs.	Rs.	Rs.
Income from—			
Land revenue	3,596	1,725	...
Provincial rates	3,33,576	3,19,646	3,40,111
Interest	317	...	...
Education	47,461	35,664	37,502
Medical	16	...	245
Scientific, &c.	3,250	1,905	2,100
Miscellaneous	96,192	1,33,148	1,26,531
Public works	6,585	5,134	14,169
Pounds	19,692	5,466	13,117
Ferries	862	2,170	2,153
Total income	5,11,547	5,04,858	5,35,928
Expenditure on—			
Refunds	42	...	...
Land revenue	660	...	...
General administration	38,355	40,282	41,012
Education	1,92,148	1,90,880	1,25,190
Medical	9,621	14,028	22,546
Scientific, &c.	10,363	8,779	16,589
Miscellaneous	51,472	52,368	48,972
Public works	2,87,342	1,99,162	2,69,950
Total expenditure	5,90,003	5,05,499	5,24,259

There were, in 1904, twelve municipalities in Berār. The committees of these municipalities consisted of 173 members, of whom 81 were elected; 54 were officials and 119 non-officials; 28 of the members were Europeans. The attention of municipalities has been mainly devoted to surface drainage and general improvement of sanitation, the upkeep of roads, education, and public health. The resources of most of the municipalities in Berār were severely strained by the famine of

1899–1900, and assistance by means of grants from Provincial revenues was found necessary. The municipalities generally have shown some remissness in the collection of arrears of taxation. The financial condition of all places, except Akola, Khāmgaon, and the Amraotī civil station, is now satisfactory, and in these three an increase of taxation is possible.

Electoral privileges are not highly valued. When the elective principle was first introduced, it was believed that the apathy of the electorate was due to ignorance, and that as the privileges of self-government came to be understood they would be appreciated. These anticipations have not been realized. The proportion of actual voters to the whole body of the electorate varies much at different times and in different municipalities, but a study of the figures for the period from 1889–90 to 1900–1 can only lead to the conclusion that interest in municipal self-government has declined and is declining.

INCOME AND EXPENDITURE OF MUNICIPALITIES IN BERĀR

	Average for ten years 1891–1900.	1901.	1903-4.
Income from—	Rs.	Rs.	Rs.
Tax on houses and lands	6,389	35,377	37,040
Other taxes	57,576	64,099	97,542
Rents	16,390	15,036	19,472
Loans	13,766*	31,000	...
Other sources†	3,78,882	2,13,519	1,32,847
Total income	4,73,003	3,59,031	2,86,901
Expenditure on—			
Administration and collection of taxes	18,399	24,879	24,076
Public safety	9,399	9,149	10,310
Water-supply and drainage—			
(*a*) Capital	26,017	2,752	20,527
(*b*) Maintenance	25,116	16,392	18,072
Conservancy ‡	61,211	66,976	73,711
Hospitals and dispensaries	8,081	8,810	6,499
Public works	28,725	1,37,170	31,394
Education	24,491	39,085	41,376
Other heads	1,93,168	2,06,440	54,123
Total expenditure	3,94,607	5,11,653	2,80,088

* Figures for three years, 1893, 1894, and 1900.

† 'Other sources' includes income from pounds, hackney carriages, sale-proceeds of lands and produce of lands, conservancy receipts other than taxes and rates, fees from institutions, markets, slaughter-houses, &c., interest on investments, grants and contributions, and recoveries on account of services.

‡ Including road-cleaning and watering and latrines.

The province is divided into two Public Works divisions, each under the charge of an Executive Engineer. The East Berār division consists of the Districts of Amraotī and Yeotmāl, and the West Berār

division of the Districts of Akola and Buldāna. These two divisions are controlled by a Superintending Engineer, who was formerly also Secretary in the Public Works department to the Resident at Hyderābād, and had his head-quarters at Bolarum; but since Berār has been transferred to the administration of the Central Provinces the head-quarters of the Superintending Engineer have been moved to Nāgpur.

Public works.

The department carries out all Provincial public works and repairs, and also original works debitable to incorporated Local funds costing over Rs. 1,000. District boards carry out incorporated Local fund public works costing Rs. 1,000 and less, and all repairs in works other than Provincial public works.

The sum available for expenditure during the ten years ending 1891–2 averaged 11·1 lakhs, and for the next decade 14·6 lakhs. The normal expenditure was less in the latter than in the former period, but the large expenditure of 60 lakhs necessitated by the famine of 1899–1900 led to the increase in total expenditure during the latter decennium. The expenditure on civil works in 1901–2 and 1903–4 was 7·1 lakhs and 6·5 lakhs respectively.

Berār contains no notable public works; but it is very well provided with roads, and communications are the principal item of expenditure. Civil buildings, such as court-houses, schools, dispensaries, police stations, &c., come next in importance to, but far behind, communications. No large schemes of municipal drainage have been taken in hand. A drainage project for Amraotī, the cost of which is estimated at nearly 5 lakhs, was prepared in 1891–2, but has not been begun owing to want of funds. The town and civil station of Amraotī, and the towns of Akola, Khāmgaon, and Buldāna each have a system of artificial water-supply which, though ordinarily good, cannot withstand a long drought.

The number of soldiers stationed within the province on June 1, 1903, was 629, nearly all of whom belonged to the Native army. Berār lies partly within the Mhow division of the Western Command and partly within the independent Secunderābād division. The only military station, Ellichpur (since vacated), was in the latter. The Berār Volunteer Rifles, who numbered 125 in 1903, have their head-quarters company at Amraotī, and a second company at Akola.

Army.

Soon after the Assignment steps were taken to organize a regular police force for the province. In 1870 this consisted of 2,613 officers and men, or one policeman to every 6·77 square miles of country and to every 849 of the population. Since then the increase has been trifling, and has failed to keep pace with the increase of population. The number of

Police and jails.

officers and men in 1903 was 2,900, giving one policeman to every 6·1 square miles of country and to every 949 inhabitants. There are no rural police.

The force is recruited principally in the province, and the sanction of the Inspector-General of Police is necessary for the enlistment of men who are not natives of Berār or the Deccan. The enlistment of Gurkhas, Sikhs, and frontier Pathāns is prohibited; and the authorized proportions of various classes in the police are 40 per cent. Musalmāns, 20 per cent. Hindus of Hindustān, and 40 per cent. Hindus of the Deccan and other classes. Owing to the difficulty of obtaining suitable Hindus, it is sometimes necessary to enlist Musalmāns in excess of the fixed proportion.

The newly enlisted policeman is trained in each District in a school, where reading, writing, elementary arithmetic, drill, and the laws and departmental rules which apply to the duties of the police are taught. Four standards of examination have been framed for non-gazetted officers and constables, and promotion is chiefly regulated by the results of these examinations. Service in the police cannot be said to be popular among educated natives.

No special measures have been taken of late years to improve the status and character of the police force. The principal measure adopted for the repression of organized and habitual crime has been the closer supervision of Banjārā encampments or *tāndās*, which have in most cases been moved closer to the sites of the villages in the lands of which they are situated. Banjārās were formerly employed as detectives, but the measure was only partially successful; for they were not always trustworthy, and were of no further use when their occupation became known to their fellows. Anthropometry has been abandoned as a means of identifying criminals, and dactylography has taken its place. The finger-print records have been largely increased of late years, and the police should soon have a complete record of habitual criminals in the province.

	1881.	1891.	1901.	1904.
Supervising Staff.				
District and Assistant Superintendent	8	8	8	8
Inspectors	18	19	19	19
Subordinate Staff.				
Chief constables	} 501	526 }	113	113
Head constables			430	430
Constables	2,134	2,323	2,330	2,330
Total	2,661	2,876	2,900	2,900

Of the District police, 56 are armed with batons only, 1,799 with swords, and 1,018 with smooth-bore carbines.

The railway police force consists of one inspector, 2 chief constables, 12 head constables, and 58 constables. Their range is the branch of the Great Indian Peninsula Railway which traverses the province, and they are under the control of the District Superintendents of Amraotī and Akola.

The table on p. 414 gives the sanctioned strength in the various ranks of the police at different periods.

The following table gives statistics of cognizable crime:—

	Average for five years ending 1901.	1903.	1904.
Number of cases reported	10,323	9,318	8,966
Number of cases decided in the criminal courts	7,374	7,323	6,883
Number of cases ending in acquittal or discharge	642	409	488
Number of cases ending in conviction	6,704	6,858	6,343

The following table exhibits statistics of jails for the years 1881, 1891, 1901, and 1904:—

	1881.	1891.	1901.	1904.
Number of Central jails	2	2	2	2
Number of District jails	4	4	4	3
Number of Subsidiary jails (lock-ups)	...	1	...	1
Average daily jail population:—				
(*a*) Male.				
In Central jails	1,033·53	730·88	1,055·18	543·40
In other jails	181·86	214·85	256·11	153·13
(*b*) Female.				
In Central jails	44·93	29·49	35·76	13·35
In other jails	11·48	15·06	10·10	14·36
Total	1,271·80	990·28	1,357·15	724·24
Rate of mortality per 1,000	16·1	11·1	25·79	16·57
Expenditure on jail maintenance . Rs.	75,428	61,086	1,08,584	61,742
Cost per prisoner Rs.	59-4-11	61-12-0	80-0-2	85-3-11
Profits on jail manufactures . Rs.	12,047	12,800	17,825	19,615
Earnings per prisoner Rs.	9-14-3	14-1-0	16-7-0	12-12-0

Since the redistribution of the Districts in August, 1905, the jails in Berār are classified as follows: the jails at Amraotī and Akola are Central jails, those at Buldāna and Yeotmāl District jails, and those at Ellichpur and Bāsim subsidiary jails.

The principal industries are: in the Amraotī jail, the lithographic printing of forms for official use, and weaving; and in the Akola jail, the manufacture of police and prison clothing, and weaving. Blankets are woven in both jails. In the small District jails coarse weaving, blanket-weaving, and oil-pressing are the principal industries; and the prisoners in all jails provide for their own needs by tilling the jail gardens and grinding their own meal. Stone-breaking is the commonest form of unskilled labour. Different departments of the administration take the greater part of the jail produce. Textiles, such as towels, dusters, tape, &c., are sold by private arrangement.

Education.

Neither under Hindu nor under Muhammadan rule were there any schools in Berār expressly supported by the Government. Brāhmans in receipt of money-grants and *ināms* taught Sanskrit and Marāthī, in most instances for payment; and schools in which the Arabic of the Korān, Persian, and Urdū were taught were supported by wealthy Musalmāns as a work of merit. The profession of teaching was regarded as derogatory, and was compared to the herding of cattle. In 1862 a few Marāthī and Anglo-Marāthī schools were established and placed under District officers; and in 1866, when there were 35 schools with an attendance of 1,881 pupils, a department of Public Instruction was organized under the control of a Director, assisted by a Deputy-Inspector for each District. Two European Inspectors were next appointed, but after 1873 there was only one Inspector for the whole province. In 1903 the administration of Berār was transferred to the Central Provinces, and the supervising agency under the Director of Public Instruction for both areas now consists in Berār of one European Circle Inspector, and eleven Deputy and Sub-Deputy-Inspectors.

There is no college in Berār, but scholarships are tenable in the Arts, Science, and Medical colleges of the Bombay Presidency by candidates from the Berār high schools. The educational authorities in Berār are not directly concerned with the further education of those who proceed to these colleges. In 1881 nine, in 1891 fifteen, and in 1903 twenty-seven students from Berār matriculated, and the average annual number of graduates for the last fourteen years has been two.

Secondary schools are of two classes: namely, high and middle schools, English being taught in both. There are seven standards in the curriculum of English education, the first three of which form the middle school course. The first English, which succeeds the fourth vernacular standard, includes arithmetic to the end of compound pro-

portion, reading and writing the vernacular, history and geography, and elementary instruction in English. These subjects, together with grammar, constitute the middle school course, a wider knowledge of each subject being of course required in each successive standard. The high school course begins with the fourth standard. To the subjects already taught elementary algebra and drawing are added, a classical language, Sanskrit or Persian, may be substituted for the vernacular, and geography and history are taught in English. In the fifth standard Euclid and easy English composition are begun. The sixth standard is similar, but more advanced; and the seventh is the matriculation standard of the Bombay University. There is a private unaided high and middle school at Amraotī. The proportion of boys undergoing secondary instruction to the total male population of school-going age in 1904 was 6·05 per cent.

There are six purely vernacular standards. In the first standard the pupil learns reading, the writing of the alphabet, and elementary arithmetic; in the third, geography; in the fourth, elementary hygiene and history; and in the sixth, the first book of Euclid and—as an optional subject—land measurement are added to the curriculum.

Primary schools are under the management of municipalities and District boards. In addition to the cess of 3 pies per rupee of land revenue, the contribution of Government towards their maintenance consists of a grant from Provincial revenues, which is made over to District boards. Municipalities supply two-thirds of the expenditure on primary schools in towns, one-third being contributed from Provincial revenues. A few municipalities receive subsidies from District boards. The pay of teachers in primary schools ranges from Rs. 10 to Rs. 35. A tendency to cultivate the memory rather than the intelligence of pupils is still noticeable, but it is probable that this defect will disappear by degrees, now that the proportion of trained teachers is increasing. The proportion of boys under primary instruction to the total male population of school-going age in 1904 was 17·21 per cent.

Female education has not yet advanced beyond the primary stage. The number of girls' schools was 12 in 1881, 48 in 1891, and 47 (including 3 private institutions) in 1904; the proportion of female scholars to the female population of school-going age in those years was 0·14, 0·22, and 1·12 per cent. Girls' schools are supported and managed by municipalities and District boards. The subjects taught are reading, writing, arithmetic, geography, plain needlework, knitting, and fancy work. Progress has been fairly satisfactory; but the people in general still need to be convinced that female education is a good thing. A great obstacle in the way of any thorough teaching is the practice of withdrawing girls from school at a very early age, due, among Hindus, to the custom of infant marriage, and, among Muhammadans, to the general

feeling that a girl who has attained the age of puberty, which may be fixed at about twelve, is better at home than at school.

The training school for teachers at Akola is a useful institution. It contains Marāthī and Hindustāni divisions, and was attended in 1881 by 71 teachers, in 1891 by 91, and in 1904 by 47. The Government industrial school at Amraotī is at present an unimportant institution, with an attendance of 12. The Alliance Mission Workshop at Akola is an industrial school under competent management, with an attendance of 29. Instruction is given in ironwork, carpentry, and other handicrafts, and the pupils are generally well started in the world. In the Korkū Mission school at Ellichpur, 62 pupils are taught masonry, painting, smiths' work, and carpentry.

The Convent school and the Anglican school at Amraotī are the only schools for Europeans and Eurasians in the province. Both are mixed schools. In 1904 the former had on its rolls 17 boys and 27 girls, and the latter 11 boys and 3 girls. The highest standard in the former was the seventh, and in the latter the fifth, and the two schools received monthly grants of Rs. 100 and Rs. 40. Boys have usually proceeded from these schools to others before making a start in life.

From the following table, which shows for the three census years 1881, 1891, and 1901 the percentage of Muhammadan and Hindu boys attending secondary and primary schools to the total male population of school-going age of each class, it will be seen that in Berār Musalmāns are not behind Hindus in appreciating the benefits of education:—

	1881.		1891.		1901.	
	Musalmāns.	Hindus.	Musalmāns.	Hindus.	Musalmāns.	Hindus.
In secondary schools	0.03	0.08	1.46	1.36	1.24	1.13
In primary schools .	17.07	9.45	25.91	12.28	19.91	10.0

These figures, however, include all classes of Hindus, the more backward castes among whom have hardly been touched by education; and it must be understood that Musalmāns as a class are far less anxious for education than Brāhmans and other advanced castes among Hindus. Satisfactory progress has, nevertheless, been made. The establishment of separate Hindustāni schools, the existence of which dates back almost to the introduction of a system of education, can hardly be mentioned as an instance of special encouragement, for the Musalmān has as much right to receive instruction through the medium of his mother tongue as the Marāthā has to receive it through the medium of his. Musalmāns are, however, encouraged by being treated leniently in the matter of fees. The standards and the subjects taught in Hindustāni schools are similar to those in the curriculum for Marāthī schools; but instruction

is conveyed in Urdū, and in the first standard no Marāthī is taught. In the second and subsequent standards the pupil learns Marāthī; but after the fourth standard he may proceed to the middle-school course, when he may abandon Marāthī and take Urdū as his sole vernacular language, or he may complete his vernacular education by going on to the fifth and sixth standards.

It has occasionally been necessary to open here and there special schools for the lowest castes, such as Mahārs and Māngs, but the last of these schools was closed in 1902 for want of attendance. The need for these institutions no longer exists, as the prejudice which prevented low-caste boys from attending ordinary schools has given way to a more enlightened feeling.

There are two schools in the Melghāt for Korkūs, among whom education is making fair progress, though none have yet passed beyond the primary stage. In 1891 only 127 Korkūs attended school, and in 1904 the returns show only 38 Korkū girls at these schools.

EDUCATIONAL FINANCE IN BERĀR, 1903–4

	Expenditure on institutions maintained or aided by public funds from				
	Provincial revenues.	District and municipal funds.	Fees.	Other sources.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.
Secondary schools	59,048	181	17,073	7,574	83,876
Primary schools	25,977	228,800	20,226	23,708	298,711
Training and special schools	8,863	1,082	295	...	10,240
Total	93,888	230,063	37,594	31,282	392,827

The following figures show the percentage of males and females of school-going age under instruction in the three last census years:—

	1881.	1891.	1901.
Males	6·41	7·0	12·12
Females	0·14	0·22	1·12

Education has made considerable progress. In 1901, 8·53 per cent. of the male and 0·31 of the female population could read and write. Ellichpur and Amraotī Districts are the most advanced, and Wūn is the most backward in respect of education. The Brāhmans are the most highly educated section of the indigenous population, and the Kolāms, among whom not a single person can read or write, the most ignorant. The Banjārās, Andhs, and Māngs are little better than the Kolāms.

Educational Statistics in Berār

Class of institutions.	1880-1.			1890-1.			1900-1.			1903-4.		
	Number of institutions.	Scholars.		Number of institutions.	Scholars.		Number of institutions.	Scholars.		Number of institutions.	Scholars.	
		Male.	Female.		Male.	Female.		Male.	Female.		Male.	Female.
Public.												
Secondary schools :—												
Upper (High) . .	2	54	...	2	401	...	3	570	...	3	462	...
Lower (Middle) .	5	196	...	24	4,268	...	25	3,613	4	185	12,210	852
Primary schools . .	867	31,507	393	1,247	43,659	1,764	999	39,080	2,835	889	36,979	1,899
Training schools . .	...	...	...	1	91	...	1	57	...	2	47	8
Other special schools .	1	71	...	1	25	...	3	93	...	3	118	...
Private.												
Advanced . . .	...	...	...	6	99	...	2	65	...	5	57	...
Elementary . . .	...	...	...	6	32	3	3	145	213	3	23	44
Total	875	31,828	393	1,287	48,575	1,767	1,036	43,623	3,052	1,090	49,896	2,803

Monthly fees in primary schools range from 2 annas for the first two standards to 6 annas for the sixth; in middle schools from 8 to 12 annas; and in high schools from Rs. 1-8-0 to Rs. 2-0-0.

No English newspapers are published. In 1904 six Marāthī papers were published, one of which had English columns. Their circulation is local, and they have little influence. Twelve books, all in Marāthī, were registered in 1904. The books published in the province deal principally with religious and social subjects, and cannot be said to contain evidence of original research.

Medical.

Soon after the Assignment in 1853, steps were taken to provide medical aid by the establishment of hospitals and dispensaries, the administration of which was entrusted to Civil Surgeons of Districts. By 1871 there were 3 civil hospitals and 20 charitable dispensaries in the province. The progressive increase in the number of these institutions is shown in the table below. In 1895 a hospital for females was opened in Amraotī under the auspices of the Lady Dufferin Fund Committee. This institution has made satisfactory, though not rapid, progress. The average annual numbers of in-patients, out-patients, and operations since its establishment have been 159, 6,069, and 153.

STATISTICS OF MEDICAL INSTITUTIONS AND VACCINATION IN BERĀR

	1881.	1891.	1901.	1903-4.
Hospitals, &c.				
Number of civil hospitals and dispensaries	36	44	47	47
Average daily number of:—				
(*a*) In-patients	77·25	100	161·08	126·15
(*b*) Out-patients	1,437·17	1,803·97	2,303·10	2,056·98
Income from:—				
(*a*) Government payments . Rs.	81,614	82,975	60,035	65,312*
(*b*) Local and municipal payments . Rs.	8,064	20,119	20,234	15,788*
(*c*) Fees, endowments, and other sources . Rs.	10,062	4,040	4,405	8,294*
Expenditure on:—				
(*a*) Establishment . Rs.	74,058	76,959	48,987	52,567
(*b*) Medicines, diet, buildings, &c. Rs.	18,564	22,405	27,113	28,274
Vaccination.				
Population among whom vaccination was carried on	2,672,673	2,897,040	2,897,040	2,754,016
Number of successful operations	81,000	102,596	86,483	100,751
Ratio per 1,000 of population	30·8	36	29·9	36·58
Total expenditure on vaccination Rs.	17,192	16,660	17,626	17,325
Cost per successful case . Rs.	0-3-5	0-2-7	0-3-3	0-2-9

* These figures are for the calendar year 1903. Information for the official year 1903-4 is not available.

No lunatic asylum has been established in the province, and lunatics for whose custody it is necessary to provide are sent to the asylum at Nagpūr. The principal causes of insanity are said to be the abuse of alcohol and narcotic drugs, enforced widowhood among Hindus and the *zanāna* system among Musalmāns, physical ailments, and pecuniary losses.

There was no indigenous method of inoculation in Berār before the introduction of vaccination by the British Government, and it seems that vaccination was at first regarded, if not with disfavour, at least as an innovation of doubtful utility. This feeling has been gradually removed.

The pice-packet system of selling quinine through the agency of the Post Office was introduced in January, 1895, in which year 1,337 packets were sold. In 1896 the aid of the Forest department was enlisted. In 1904 the total number of packets sold was 281,729, and it is evident that the people are awakening to the value of this drug.

Village sanitation is atte[illegible] by village officials and by rural boards under th[illegible] advice and en[illegible]uragement of District sanitary boards and of officials on tour; but ve[illegible] much remains to be done in this direction, and it cannot be said that any considerable number of the people have as yet any knowledge of elementary sanitary principles.

Surveys.

The revenue survey of Berār was begun in 1853–4, the year of Assignment, in the Malkāpur *tāluk*. In 1855–6 and 1857–8 the Bālāpur *tāluk* was surveyed, and the survey of the *tāluks* which then existed proceeded in the following order: Jalgaon (1857–8), Mehkar (1860–1), Akot, Chikhlī, Daryāpur, and Murtazāpur (1861–2). In the Berār revenue survey areas are calculated by the English acre, divided into 40 *guntas*, each *gunta* being subdivided into 16 'annas.' The chain used is 33 feet long, and is composed of 16 links. A *gunta* is one square chain, and an 'anna' is one chain long by one link broad. Native surveyors survey with the chain and a cross staff, and a proportion of their work is checked by the survey officer. The original survey of the province was generally checked and revised between 1891 and 1[illegible]1, but the survey of the Kelāpur and Wūn *tāluks* has yet to be rev[illegible]d. *Munsarims*, under the control of Deputy-Commissioners and the department of Land Records and Agriculture, are entrusted with the duty of keeping surveys up to date. Many of the *patwāris* go through a course of surveying in the Survey Training School at Akola.

[A. C. Lyall, *Berār Gazetteer* (1870); *The Gazetteer of Aurangāb[illegible]* (1884); Dr. R. G. Bhandārkar, *Early History of the Dekkan* (1895); *Memoirs of the Geological Survey of India*, vol. xiii; *Records of the Geological Survey of India*, vol. i, part iii; *General Report of the Geological Survey of India* (1902–5); Brandis, *Suggestions regarding Forest*